FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JANUARY, 1953

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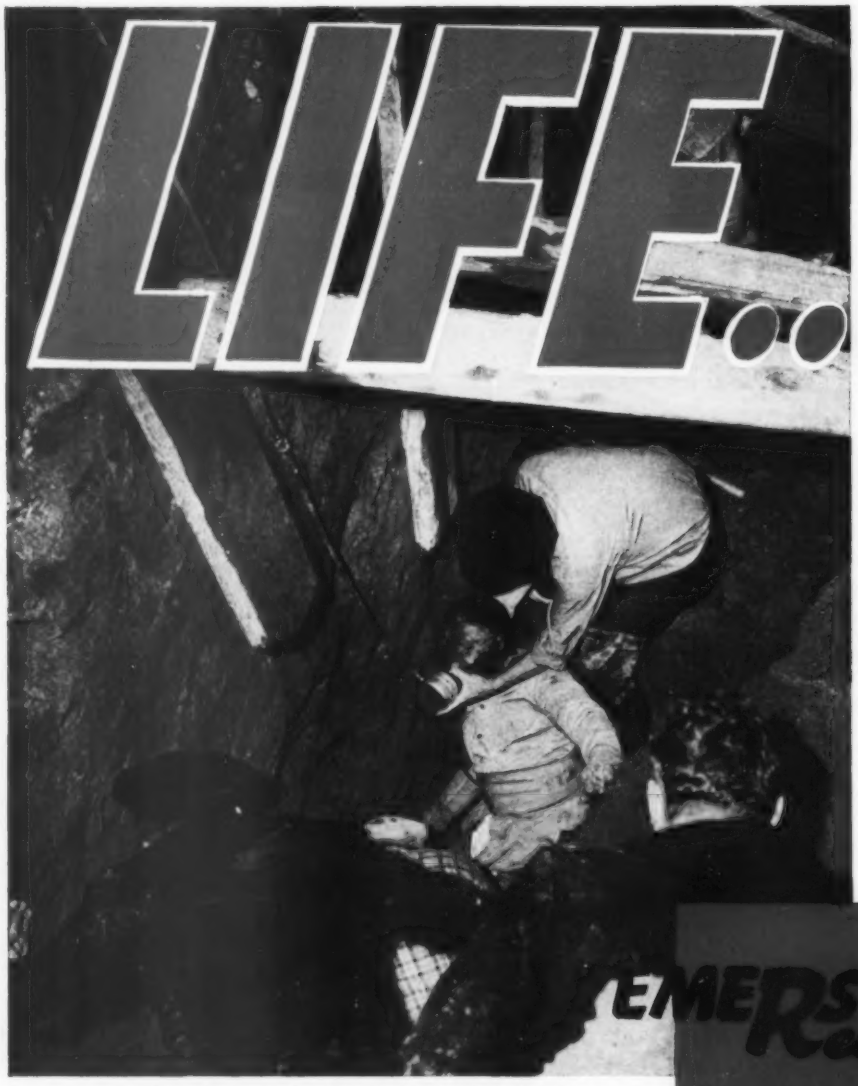
Acetylene Plant Blaze, Accompanied by Explosions, Provides a Punishing Fight for Cambridge, Mass., Firemen

(Article on Page 56)

A CASE · SHEPPERD · MANN PUBLICATION

LIFE...LINE



to a victim
in a cave-in

. . . or in a
collapsed
building or
mine shaft

. . . trapped
by machinery
or under an
overturned
vehicle . . .

in a tank or
the hold of
a ship . . .

EMERSON Resuscitator

Photo of rescue recorded by the PHILADELPHIA INQUIRER

From hundreds of feet away **EMERSON EXTENSION HOSES** can bring the breath of life to trapped victims, saving lives you could not reach with bulkier equipment. They connect instantly to standard Emerson models, and add new life-saving power to the equipment you already have. Ask your Emerson representative, or drop us a line at the factory.

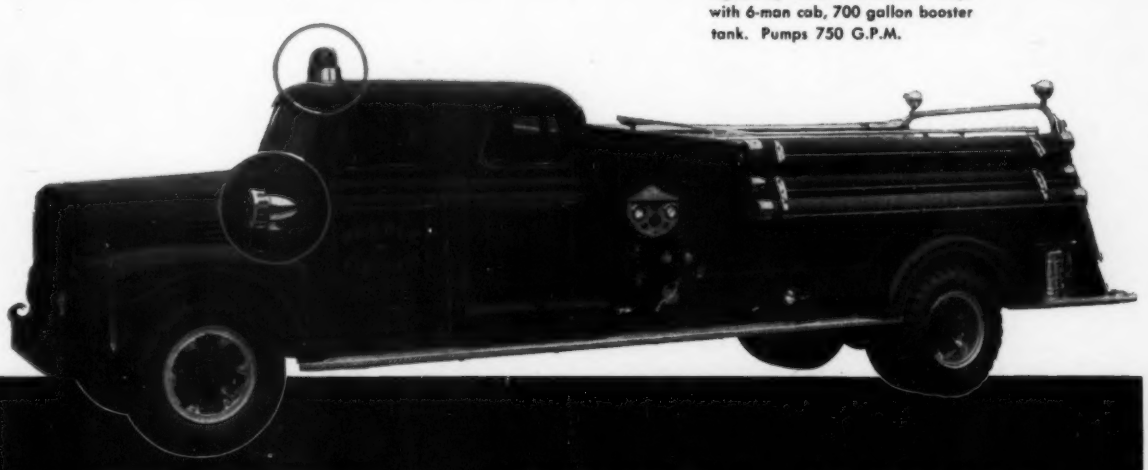
Emersons are **SIMPLE** to operate and **SAFE** for adults, children, or infants. They are **ACCEPTED** by the American Medical Association (since 1942) for use **BY LAYMEN**. They **PROVIDE SUCTION**, alternating with the pressure phase, to give vital aid to the circulation.

J. H. EMERSON COMPANY

88 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS

SUPERIOR PROTECTION

Modern apparatus for Preble (Green Bay) Wisconsin F. D. designed by Central Fire Truck Corp. with 6-man cab, 700 gallon booster tank. Pumps 750 G.P.M.

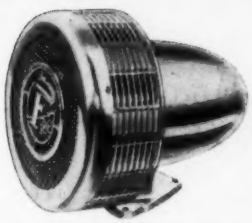


DEPENDS on FEDERAL SIGNALS

A modern firefighter like this can give superior protection only if it has superior protection. Protect your precious, high-powered apparatus with Federal signals. Federal signals establish a zone of safety, a warning area of light and sound that precedes your vehicle, alerting all in its path!

The Preble Fire Department has left nothing to chance! Specified was the Federal Q-2, *loudest* siren on the market and the famous Federal Beacon-Ray light, flashing 360° protection from the roof of the cab.

Wherever the specifications call for the "best of everything" the natural choice of signals is *Federal!* Write today for full details on how you can protect your apparatus best with Federal. Ask for Emergency Vehicle Signal Bulletin.



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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING. THE FIRE ENGINEER. FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

CONTENTS

Vol. 106 — January, 1953 — No. 1

	Page
With the Editor By Fred Shepperd	21
London Abandoning Fireboxes for "999" Phone System By Paul C. Ditzel	22
Arson Investigation By Bernard J. Mulcahey	24
Practical Fire Service Rescue By Joe Mahaffey	28
News of the Manufacturers	38
Short Cuts and Gadgets	43
False Alarms	44
The Round Table Out-of-Town Aid	46
Among the Buffs By Paul C. Ditzel	52
Questions and Answers	54
World-Wide Fire News By Roi B. Woolley	57
What's Burning?	60
Obituaries	64
The Watch Desk By Roi B. Woolley	66
Persons in the News	69

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Associated Business Publications

Today's Plans - Tomorrow's Projects

THE twentieth century was born without a memory—it's so busy with today's achievements and tomorrow's projects that no one has time to remember yesterday's exploits.

- A man named Herbert Kaufman wrote that over 40 years ago. It's as true today as then.
- As we begin a new year—our 76th incidentally—let's keep busy with today's programs and tomorrow's plans to keep the fire service at least abreast of the kaleidoscopic changes that are taking place in this vast, complicated business of fire protection and prevention.
- What between the race to create new products and new substitutes for old products, this Chemical Age is producing problems in fire control faster than an alert but insufficiently equipped fire service can solve them—and the Atomic Age with its still more complicated headaches is just around the corner.
- Part and parcel of today's and tomorrow's plans, projects and programs is FIRE ENGINEERING, with a reader audience growing steadily (Subscriptions at their highest point in history).
- Our promise to you, as we begin 1953, is that FIRE ENGINEERING will continue the policies and principles which have made it the most sought for, read, and referred-to journal of the fire service—to serve you.

The Publishers

FIRE ENGINEERING

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THE ONLY EXCLUSIVE FIRE HOSE MANUFACTURER IN AMERICA

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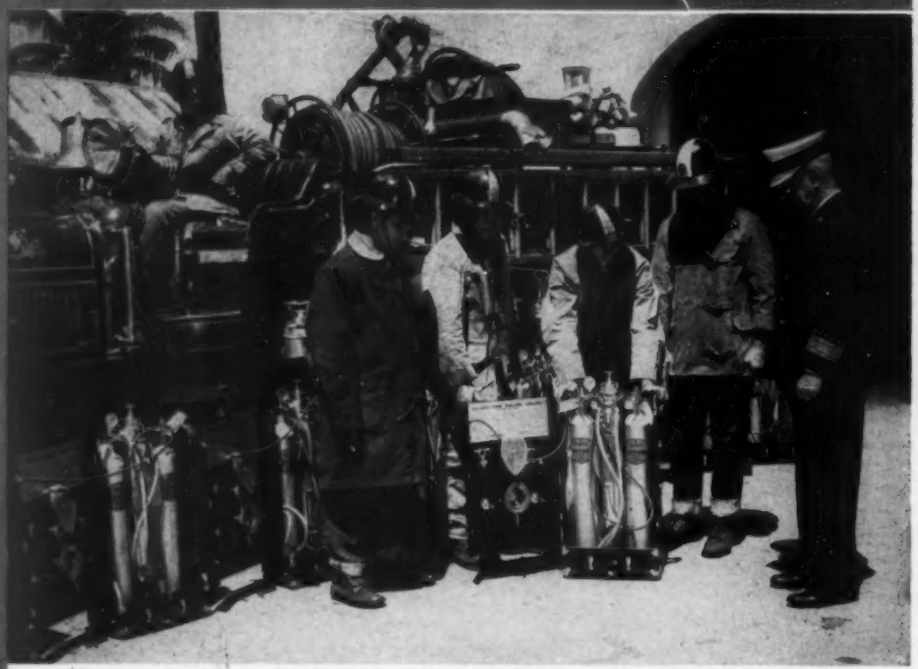
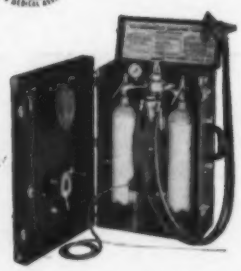


Photo courtesy Honolulu Star-Bulletin

NINE E&J RESUSCITATORS are standard Life Saving Equipment in HONOLULU

Life-saving services in these 57 foreign countries and U.S. Territories, in most cases located thousands of miles from the United States, are unavoidably "on their own" far more than similar services here. Consequently they select their equipment with great care. First, of course, they require equipment that will provide maximum effectiveness of treatment in complete safety for adult, child or infant. Second, it must be so completely automatic in operation and so simple to use that the chance of error in operation or judgment is practically eliminated. But especially important in their case, it must remain highly dependable year after year regardless of extremes in weather or conditions of use and it must remain free from frequent need for repairs. *In every one of these foreign countries and U.S. Territories life-saving services have selected E & J Resuscitators as standard equipment!*



E & J RESUSCITATOR • ASPIRATOR • INHALATOR

FROM MOZAMBIQUE TO U.S.A.

Your assurance of saving victims of asphyxiation is greater when you have an E & J Resuscitator available for immediate use. It breathes completely for the victim, using pure life-giving oxygen. It does it automatically, efficiently, safely, tirelessly and with built-in skill. Most hospitals throughout the world use it routinely; Rescue Squads say it is their greatest life-saving tool.

DON'T BE WITHOUT IT!

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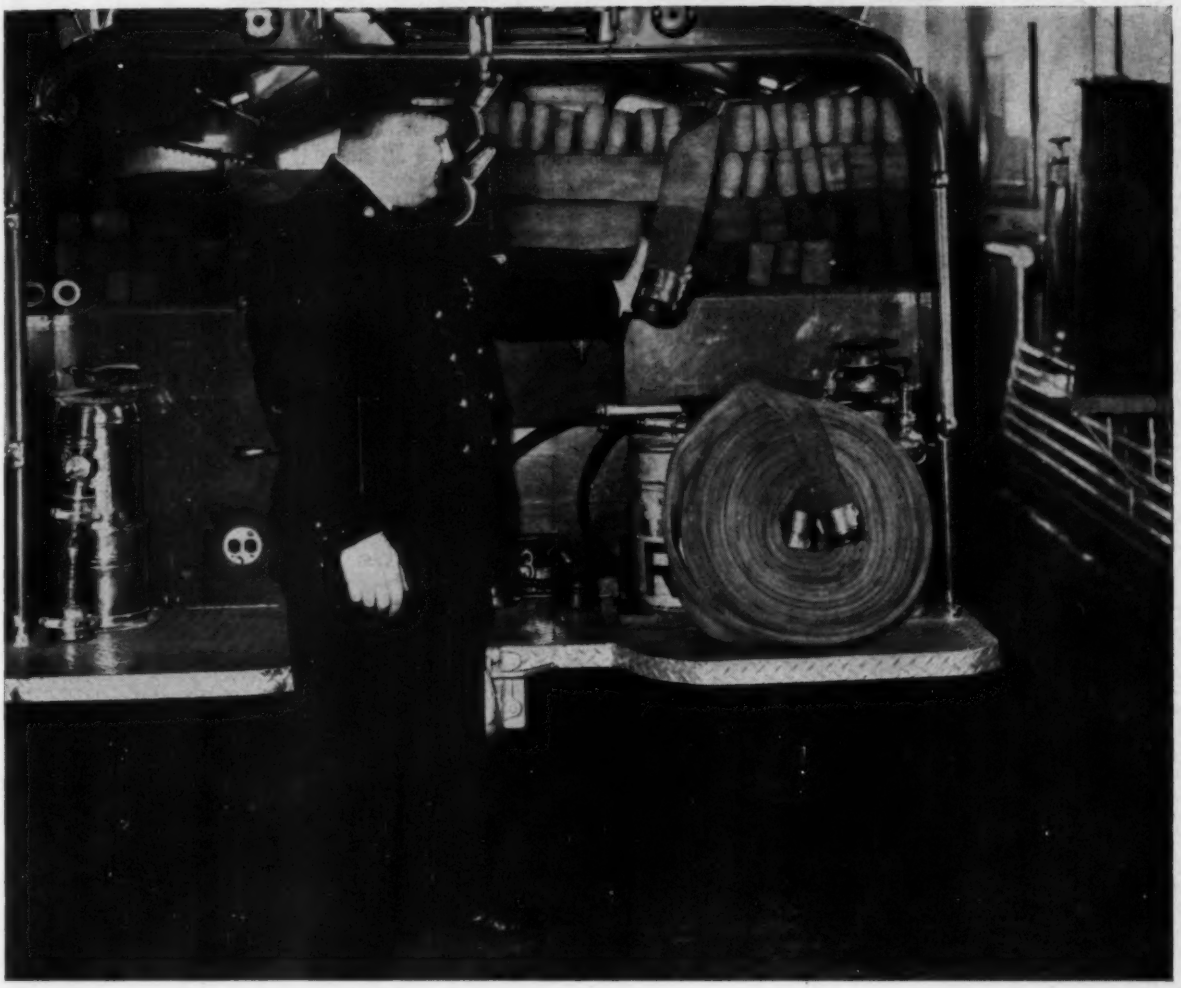
Originator and world's principal producer of automatic resuscitators

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER



Fire departments rack 20 to 50% more hose with B. F. Goodrich Fire King

FIRE KING hose is 15% lighter, much more flexible than other hose because of a new chemically-produced fiber now used exclusively as "filler" cords—the reinforcing cords that go *around* the hose and carry the load under pressure. As a result, it racks naturally on the truck bed, saves loading time.

This report from Chief James A. Hamilton, of the Rhinelander, Wisconsin Fire Department, is typical of those received from other chiefs. He says, "We've increased our hose loads from 1000 feet to 1500 feet by using B. F. Goodrich Fire King for center loading and in tight places."

In spite of its light weight and flexibility, this B. F. Goodrich hose has strength to spare. Actual service tests prove that Fire King, tested to 600 pounds pressure, is 50% stronger than standard fire hose which is tested to only 400 pounds pressure.

And Fire King has B. F. Goodrich end protection—an extra layer of hard-woven cords extending 12" from the coupling. This exclusive BFG feature gives 100% more strength to the coupling area, yet this added protection costs nothing extra. Not one single length of B. F. Goodrich hose with end protection has ever failed in the coupling area.

Before you buy another length of fire hose, let your nearby BFG Fire Hose Distributor show you a sample of Fire King and quote on your requirements. You'll find that although the initial cost of Fire King is slightly higher, it's really your most economical buy because it lasts longer. *The B. F. Goodrich Company, Industrial & General Products Division, Akron, Ohio.*

Fire Hose
BY
B.F.Goodrich

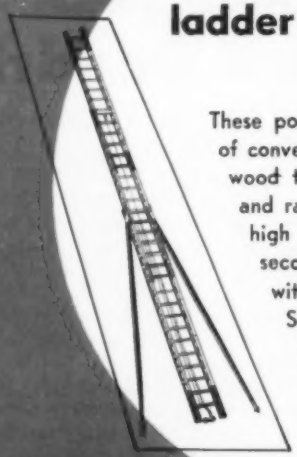
DUO Safety FIRE LADDERS

SERIES 500-A
All Aluminum
TUBULAR RAIL

Here's the favorite for service trucks the country over—DUO-SAFETY's famous 500 Series—featuring tubular rail construction. Provides greater strength, light weight, extraordinary safety with a maximum of climbing space and requires a minimum of banking height. . . . Available in all standard ladder sizes: two-section (500-A); three section (525-A); wall ladders (550-A); and roof ladders (575-A). . . . Write for free catalog.

...and a companion ladder in wood

SERIES 100



These popular Duo-Safety series are of conventional Weston Style wood truss construction. Rung blocks and rails are of well-seasoned high grade Douglas Fir, rungs are second growth hickory . . . all finished with best spar varnish.

Series 100 ladders are all built in standard sizes and are equipped with tormentor poles on long extension ladders.

DUO-SAFETY LADDER CORP.

809-11 NINTH ST.
OSHKOSH, WISCONSIN

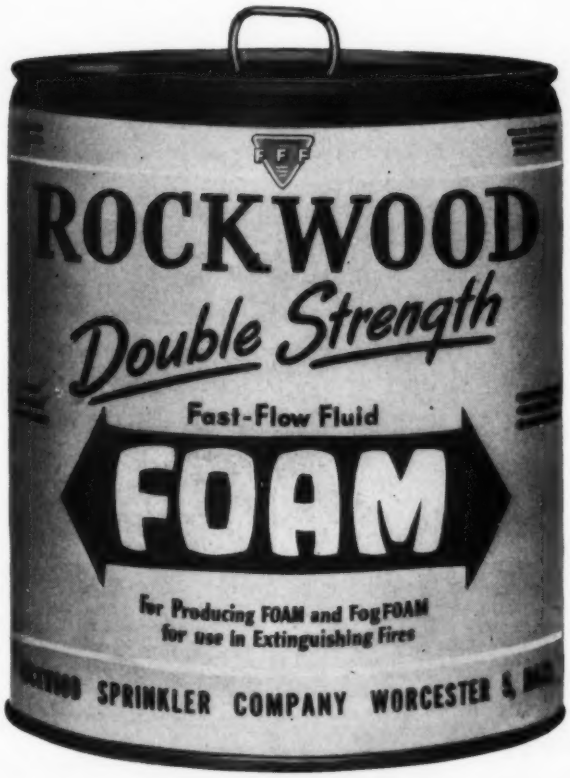
Quenches Quicker!

. . . with Less Water

that's the Short-Short Story of Rockwood Fire Fighting Aids

That's why fire-fighters like to work with Rockwood's equipment. Take for instance our new contribution to modern fire fighting, the Rockwood Double Strength FOAM Liquid which has many important advantages. Three of these are:

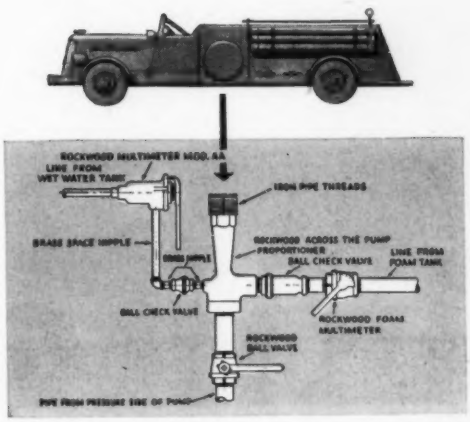
- 1. more fluid
- 2. faster spreading
- 3. flows freely at sub-zero temperatures



Rockwood's new Double Strength FOAM Liquid will put out fires in flammable liquids faster and at lower cost. Three parts of FOAM liquid mixed with 97 parts of water form an excellent foam blanket that will quickly re-seal if broken. Double Strength FOAM Liquid is more fluid, faster spreading and flows freely at sub-zero temperatures (−15° F.) It is quicker to put into action, covers burning surfaces faster, seals off combustible vapors completely and flows freely around obstructions. This foam blanket has proved its ability to extinguish large spill fires in gasoline with maximum speed and safety to firemen.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses



Accurate Mixing Assured: Automatically feeding Double Strength Foam or Wet Liquid into hose lines, Rockwood's Model Dual "B" Around-the-Pump Proportioner is designed for use where pressure is maintained by a pump from either draft supply or booster tank. Multimeter settings admit proper amounts of wetting agent for varying nozzle discharges and solution strengths.

Special Fire Truck Proportioning Systems for FOAM Liquid and Wetting Agents

Trucks for crash-rescue fire fighting, at airports or for handling spill fires in an oil refinery require special proportioning systems for large volume FOAM discharge through several FOAM turret and hand line nozzles.

Custom engineered proportioning systems to meet these and other unusual requirements are a Rockwood specialty. If you have such hazards let us engineer a proportioning system to fill your needs.

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ROCKWOOD SPRINKLER COMPANY
54 HARLOW STREET, WORCESTER 5, MASS.

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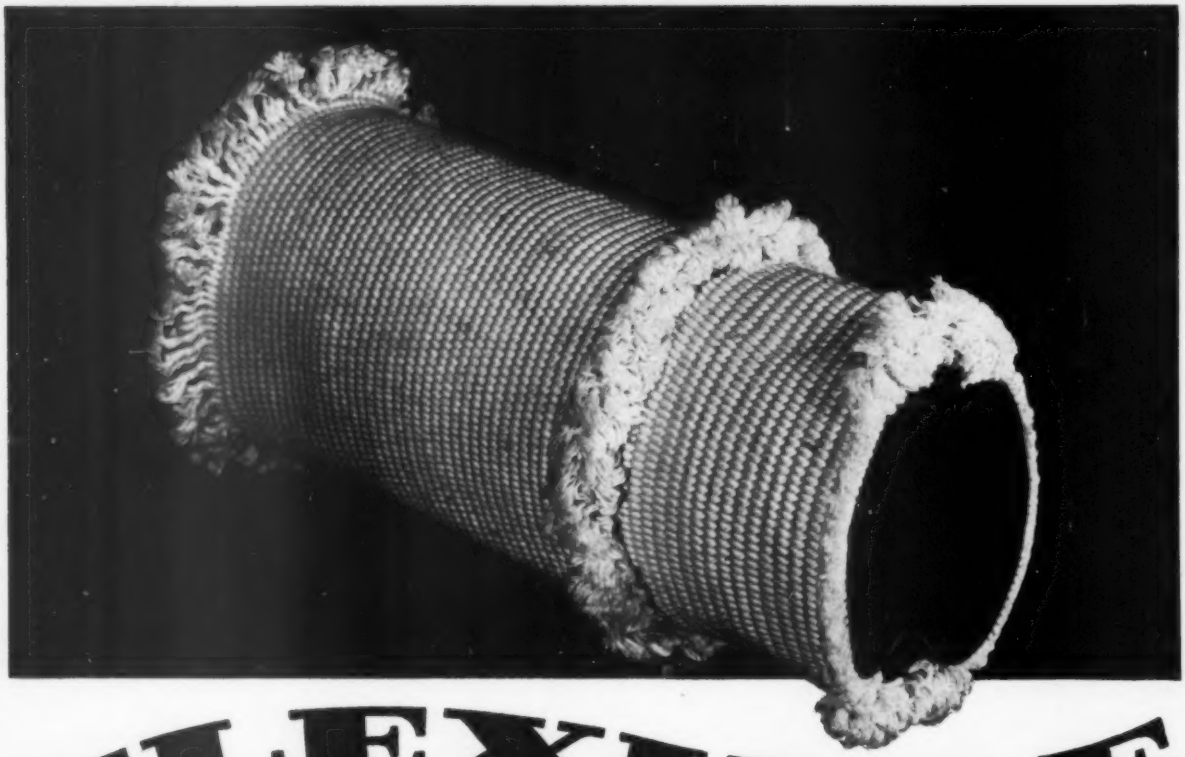


FLEXIBLE

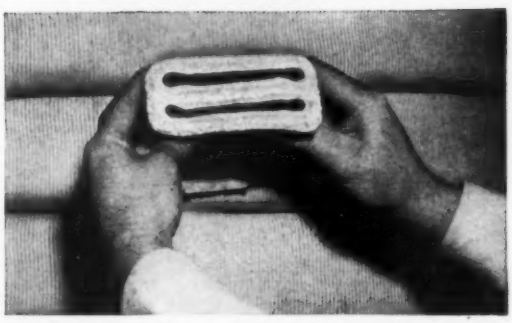
HEWITT-ROBINS

Bi-Roll Municipal Fire Hose

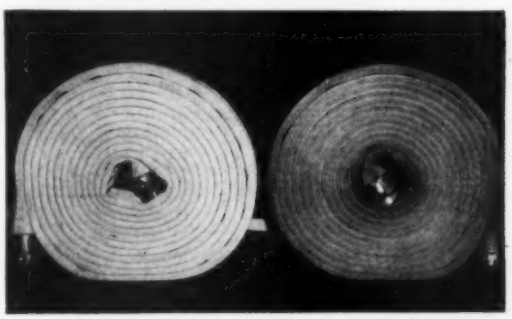
Here's the hose that gives you the flexibility and safety you need for fighting fires . . . Hewitt-Robins Bi-Roll municipal fire hose.

Bi-Roll's greater flexibility means that 30% to 40% more hose footage can be stored or dispensed in a shorter time with greater handling ease and safety.

For complete information about Hewitt-Robins Municipal Hoses . . . Bi-Roll—Chemical Booster—Fog—Suction—Street and Sewer Flushing, contact Municipal Fire Hose Division, P. O. Box 974, Buffalo 5, N. Y.



Bi-Roll . . . provides greater over-all flexibility because of its non-vulcanized point-of-fold construction . . . permits a flatter fold under light pressure . . .



Bi-Roll is available either with or without wax and gum treatment. Treated Bi-Roll provides 100% proof against mildew and rot . . . is equally pliable in hot or cold weather.

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Four new Macks join Daytona's Department

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- 600-gal. flat booster tank
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The City of Daytona Beach also operates 20 Mack Buses on their municipal bus lines and 10 Mack Trucks in their Garbage and Street Cleaning Department.

MACK MANUFACTURING CORPORATION
Fire Apparatus Division
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Modernize with

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FIRE APPARATUS

Factory branches and distributors in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Ltd.

TRIPLE COMBINATION PUMPERS — 500 TO 1250 GPM . . . SQUAD AND HOSE CARS . . . 65', 75', AND 85' AERIALS, CITY SERVICE AND COMBINATION LADDER TRUCKS

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FIRE HELMETS

REGULATION MODELS

No. 5A — "NEW YORKER"
(Leather)

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Where the preference is for aluminum, here is a rugged one-piece "regulation" helmet that is light, durable, safe and comfortable—and largely used by both regulars and volunteers, the country over.

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"Regulation" in every line, this latest CAIRNS Helmet is made of "Flint-Flex"—a light, tough, flexible, plastic material that gives complete protection against impact, heat, electric current and chemicals.

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A utility model, of CAIRNS "Flint-Flex" plastic. Safe and durable, with close-fitting front piece and new "snap-in" lining which makes installation or removal of the lining assembly a matter of seconds.

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Write for Catalog 341 showing everything a fireman needs for his personal equipment — together with Department Record Books, Secretary's Books, and printed forms.

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Model: F-75 T, Semi-open cab

CITY OF SHEBOYGAN
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CITY OF WAUKESHA
Model: FR-60T-HP, semi-open cab

CITY OF STURGEON BAY
Model: F-75 T, coupe-type cab

Choose the Added Protection of Extra Traction to protect your community

Throughout the nation, the trend is to FWD Fire Engines. In both rural and urban communities, crews know they can depend on four-wheel-drive traction to help save time on every run. FWD provides maximum safety for crews, equipment *and* other vehicles. FWD equipment and accessories also deliver extra action and dependability at the blaze.

Write for the new book—"FWD Fire Engines." It pictures and describes the types of FWD equipment selected by many typical progressive communities. Helps you select equipment for your specific needs.

THIS IS WHY YOU NEED FWD EXTRA-TRACTION

SAFER CONTROL IN TRAFFIC — Start faster. Positive control permits greater speed. Avoid accidents because 4-wheel-drive assures superior steering.

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Built by the Makers of America's Foremost Heavy-Duty Trucks

THE FOUR WHEEL DRIVE AUTO CO., CLINTONVILLE, WIS., *Canadian Factory:* KITCHENER, ONT.

Dependable!

Johnson SEA-HORSE OUTBOARD MOTORS

Rescue Squad, South Bend, Ind. Fire Department preparing to drag St. Joseph River. Motor is Johnson Sea-Horse 10.

SEA-HORSE 25

Sensational new 25 hp Johnson with Gear Shift, 6-gal. Mile-Master Fuel Tank, Synchro Twist-Grip Speed Control.

Every day is emergency day in police and fire work. And Johnson outboard motors are veterans in emergencies. Time and again—in fire, flood, and rescue operations around the world—these DEPENDable engines have proved their mettle in long, gruelling hours of service, on all kinds of outboard hulls.

Most cities need this *practical* marine power. It's maneuverable—takes boats in shallow and obstructed waters. It's economical—to install, to run, to service. It's portable. And it's space-saving—leaves maximum room for men and equipment.

Johnson gives you the latest and best outboard features: Gear Shift (neutral, forward, reverse), Neutral Clutch, Mile-Master Fuel Tank (6-gal.), Angle-matic Drive, and more! Ask your Johnson dealer. Look for his name under "Outboard Motors" in classified phone book.

FREE! Write for fully-illustrated literature on the 4 versatile Johnsons for 1953—ranging from 3 hp to 25 hp. A size for every outboard need!

JOHNSON MOTORS, 7000 Pershing Road, Waukegan, Illinois

Johnson Motors of Canada, Peterborough

HP is OBC certified brake hp at 4000 rpm.

From this plant . . .

comes America's finest fire-fighting apparatus

WARD LaFRANCE pumpers

Across America — in cities large and small — you'll find Ward LaFrance Pumpers in service. For more than 30 years, they've been a familiar sight on the nation's fire-fighting scene.

Why? Because Ward LaFrance Pumpers have proved their ability to perform under a wide range of conditions. These rugged pumpers come with engines in 130, 150, 200, 240 or 250 H.P. — deliver the weight-to-horsepower ratio so necessary for quick getaways and climbing hills.

Each Ward LaFrance Pumper is equipped with a Waterous split housing pump — surplus gallonage that far exceeds rated capacity — flat horizontal booster tank—exceptional hose capacity—plus other equally famous Ward LaFrance features.

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C-O-TWO

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FIRE EXTINGUISHERS

give fast, positive fire protection

● Top quality backed by experienced engineering results in operating superiority at all times with the world famous C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers as well as the newer C-O-TWO Dry Chemical Type Fire Extinguishers. Furthermore, modern manufacturing facilities and extensive field testing, together with approvals such as the Underwriters' Laboratories, Inc., Factory Mutual Laboratories and Government Bureaus assure you of fast, positive action the instant fire strikes.

CARBON DIOXIDE TYPE

With C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers the penetrating carbon dioxide is a clean, dry, non-damaging, non-conducting inert gas . . . smothers fire in seconds, leaves no after fire mess . . . highly effective on flammable liquid and electrical fires, as well as some surface fires involving ordinary combustible materials. The C-O-TWO Squeez-Grip Valve is the greatest single contribution to the releasing of carbon dioxide for first aid fire fighting . . . just squeeze lever to open . . . release to close.

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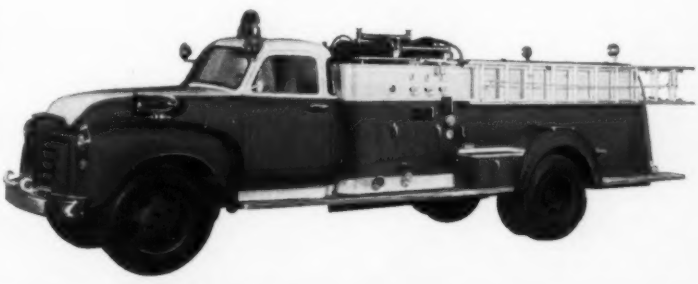

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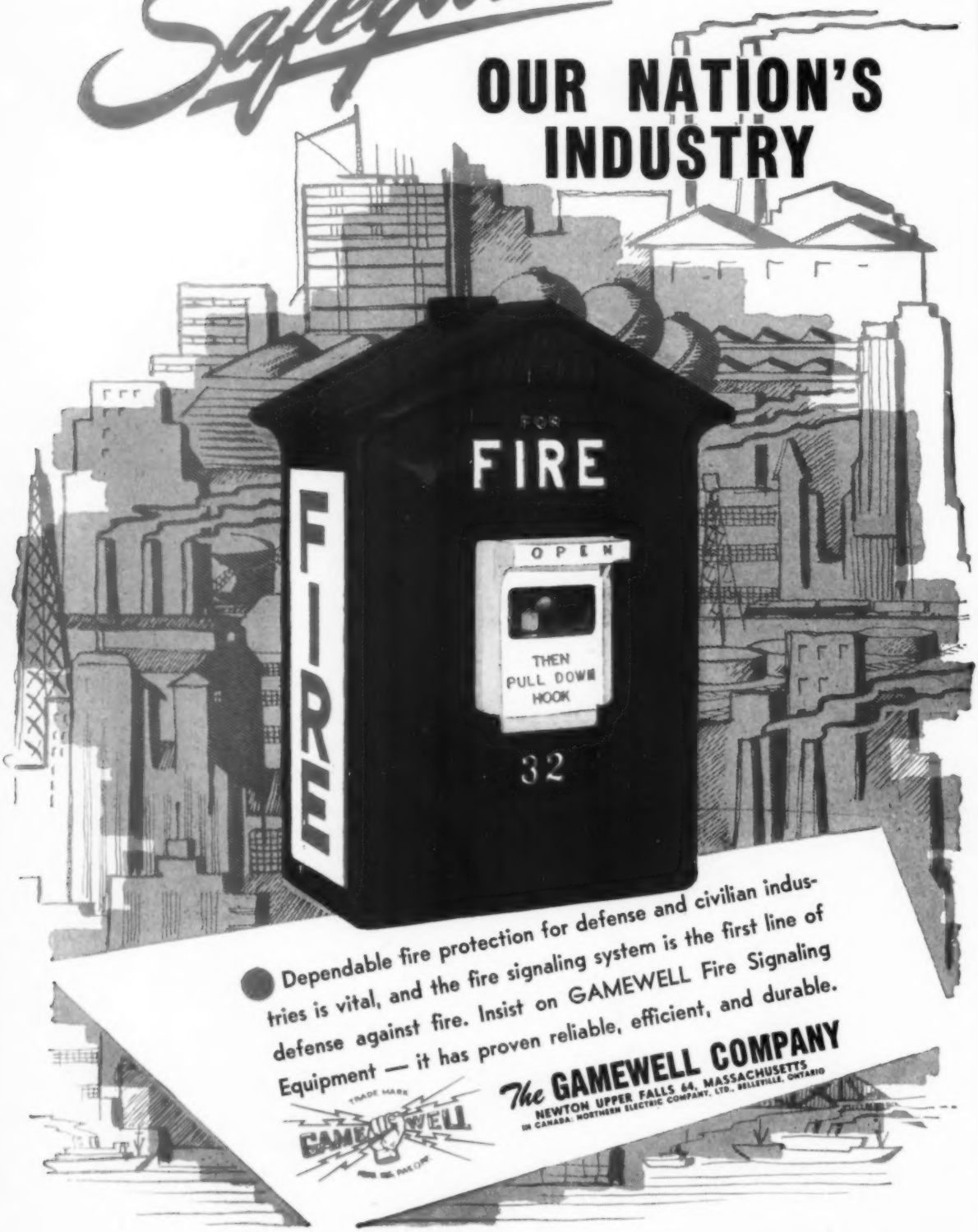

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JANUARY, 1953

FIRE ENGINEERING

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With the Editor

Can You Bring Up the Reserves?

Napoleon said "Providence is always on the side of the last reserves," which is another version of the axiom "God is always on the side of the strongest battalions."

A study of large fires, recent and past, brings to light an almost universal failing within the fire service, which in many instances has been overlooked or, if realized, has failed to be corrected, for one reason or another.

That failing is lack of reserves: reserves, both of men and materiel; reserves of apparatus and equipment of almost every description, right down to even such commonplace essentials as fire fighting apparel, boots, turnouts and gloves.

Perhaps foremost is the lack of reserves of hose and hose fittings. This condition is not confined by any means to the smaller municipal fire departments; there are many of the larger departments that are badly deficient in such necessary facilities.

The number of fire departments that cannot muster sufficient hose of desired quality to entirely replace the normal hose loads on their hose-carrying apparatus is suprisingly large, viewed the country over. So, too, is the number of departments that are forced to rely upon "reserves" of substandard hose.

The regrettable part of it is that so many fire officials fail to appreciate this lack of reserves, and to do anything about it.

The increasing use of larger capacity pumpers and the growing demands for greater volumes of water in setting up defense against conflagrations and possible fire storms caused by enemy attack; the growing interest in, and more frequent employment of, longer hose relays, and the discontinuance in many cases of "hose wagons" and of "two-piece companies" should focus attention on the wisdom of having ample hose supplies, not only in the apparatus bodies, but in reserve, ready to be thrown into action.

No one questions the wisdom of ample reserves of fire fighting apparatus and equipment; scarcely a fire chief but wishes he had more of it. But "reserves" should not mean fire rigs gathering dust in some shop or other storage place; it should not mean equipment stuck away in cellars and closets, the location of which may not be remembered when the emergency comes. It should not mean misplaced reliance on materiel that is better suited for the junkman than the fireman.

We started a new year this month. This is usually the time for inventory, for appraisal of assets and liabilities in the fire service as well as in the business world. It would be interesting to know just how many fire departments seriously attempt to inventory their assets and liabilities, measured in terms of "first line" and "reserve" fire fighting facilities.

True, the annual fire department report may show the statistics, but how many go behind the cold figures to check on such details as performance and operational qualifications? How many reports show when, where and how apparatus and equipment, such as hose and ladders, were tested, with emphasis on the "reserves"? How many inventories provide the essential data upon which administrators of fire departments can accurately and comprehensively prepare their budget requirements for the coming year, and for subsequent years?

In summation, what we're trying to say is: (1) Every fire force, like the army, needs reserves both of men and materiel; (2) these reserves should be ready and waiting for "front line" action; (3) reserve equipment below par in performance standards had better be junked; (4) it's a good time to inventory and weigh all reserves; (5) if reserves are insufficient either in number or quality, it's time to think and plan about building them up.

Fred Shepard

London Abandoning Fireboxes For "999" Phone System

Removal of Fireboxes Causes Major Debate in Fire Service

By PAUL C. DITZEL

LONDON'S decision to remove fire alarm boxes from that city and to rely upon the *government-operated telephone service* for notifying the brigade of fires, has resulted in one of the sharpest debates in years among British fire authorities.

If a study of the several British fire service publications is any indication, the gradual elimination of fireboxes in London has been generally thought to be penny-wise and pound-foolish. The preponderance of reports and comment from fire officials outside the London area is critical of London's nearly 100 per cent reliance upon the telephone for notifying the brigade of fires.

This article will later point out some of the objections raised by British fire officers who condemn the removal of fireboxes. First, however, the argument for removal of the fireboxes is presented.

Chief Officer F. W. Delve of the County of London's Fire Brigade, outspoken proponent of the gradual elimination of 1750 street fire alarm boxes from London, declares his new system of notification of fire is more efficient.

Replacing the fireboxes is the "999" system. Throughout London are thousands of public telephone booths, called kiosks. They are located not only in stores and public buildings, as in the United States, but six or more of them often stand at busy street intersections. This great number of public phone booths is in marked contrast to the United States. In London there are not as many private home phones as here. Therefore many Londoners rely upon the corner telephone kiosk. *England's phone service is operated by the government* under the General Post Office.

A caller does not have to have money ready when he makes a "999" call. He merely dials "999" which connects him with the operator who transfers the call to the fire alarm office.

London phone calls cost two coppers (coins about the size of our half dollars and as thin as our dimes but corresponding to our pennies.) The caller does not have to insert the coppers before he contacts the telephone operator as he would have to in the United States. This is an important factor insofar as notification of fire is concerned.

Chief Officer Delve and John Cunningham a deputy fire officer, entertained this FIRE ENGINEERING correspondent and gave generously of their time for a whole day.

Chief Delve said most of London's fire alarm system had been installed in 1938 and 1939. Some parts were not completed until 1942.

In his own words, this is how Chief Delve explains why his brigade decided to dispense with fire alarm boxes:

"For many years the public has shown an increased tendency to report fires by means of telephone. This increase has been most marked since the introduction of the "999" system in 1937. Whereas in 1903 only 64 calls by telephone were received, the total has risen to 3,662 in 1929; 5,497 in 1937 and 12,729 in 1950.

"Secondly, during the postwar years there has been a serious increase in the number of malicious calls given by street fire alarm. Despite vigorous efforts to reduce this menace, 76% of fire alarm calls in 1948 were false alarms. Of all malicious alarms, 85% were made through fireboxes.

"Since 1948 about 750 fireboxes have been removed. Last year (1950) 58% of firebox calls were false and of all false alarms, 76% were given by firebox.

"It has often been suggested that removal of street fire alarm boxes would only cause hoaxers to give their false calls by other means but the brigade's experience disproves this. In 1948, 29 fireboxes from which malicious calls were regularly received were taken out of service. Each of these stations had a kiosk in the near vicinity.

"During the six-month period before the boxes were taken out of service, more than 300 false alarm calls were received from them. But in the corresponding period afterwards, only 10 malicious calls by telephone were received from the areas formerly covered by the alarms. Of this total, eight came from one area and within a short time the perpetrator was apprehended by the police.

"Finally, the 30,000 pound annual expenditure for fire alarm line rental and maintenance is a high price to pay for the system."

Chief Delve added that in 1950, 79% of all genuine calls to the London brigade were given by telephone, 10% by firebox, and 1¼% by both firebox and telephone.

He says the London County Council's policy is to remove fire alarm boxes

Photo by Paul C. Ditzel

A turntable ladder of the London County Council Fire Brigade. This is a 100-foot aerial. Note the ladder pipe mounted on the tip of the ladder. Note also the two bells on this truck.

gradually and only when adequate alternative methods of calling the brigade are available. In this connection the General Post Office is co-operating with the brigade in the provision and siting of new kiosks.

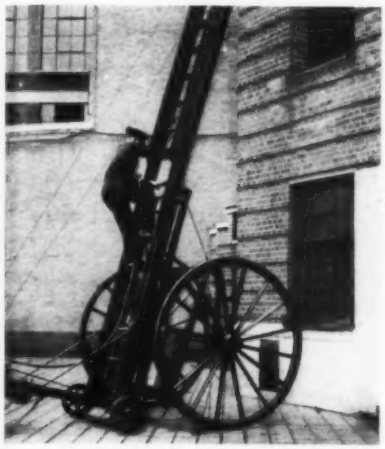


Photo by Paul C. Ditzel

A traveling ladder of the London Fire Brigade. These wheeled affairs are mounted on the pump escapes and carom back off the rig when needed. Firemen then wheel them to the desired location where the wheels are blocked and the ladder raised.

In manual areas where the subscribers have no "999" facility, all fire alarm boxes are being retained until such time as the exchanges are converted to automatic working. In one or two areas where there is a predominance of foreign residents, the fire alarm boxes also are being temporarily retained.

Chief Officer Delve says the system of police call boxes in London also supplements the fireboxes. Police boxes are illuminated and plainly marked, "Police"—white lettering on an illuminated blue background. Citizens as well as policemen can use the phones in these boxes. Calls for fires are relayed through the police switchboard directly to the London central fire alarm office.

In addition to the decrease of false alarms and economy (Mr. Delve estimated it cost 30,000 pounds—$84,000—a year to maintain the firebox system) he says the person sending in the phone alarm does not have to wait at the box until the apparatus arrives to direct them to the fire.

The fire apparatus knows the exact—or nearly exact—location of the fire and does not have to hunt up the fire after responding to the firebox. Mr. Delve says a telephone call for fire assistance from any one of London's kiosks reaches the fire brigade within 10-14 seconds day or night. The call goes to the nearest station in 26 seconds.

It is not the intent of this article to debate the pros or cons of the London County Council's decision to rely upon the city's telephone system instead of the firebox as before.

There are several extentuating circumstances, mentioned above, and peculiarities of London's phone service that perhaps tends to make this new idea efficient insofar as London is concerned at this time.

Nottingham also removed fire alarm boxes from its streets when it found fireboxes had in most cases been duplicated by telephone kiosks. According to an annual report issued by the Nottingham brigade, the decision to dispense with fireboxes resulted in considerable savings of manpower required for the operation, maintenance, and testing of the system.

Moreover, the expense of line rentals and maintenance costs was eliminated without adverse effect on the operational functions of the brigade. Also noted was a considerable decrease in the number of false alarms.

Arguments Against the Plan

The idea of the replacement of fire alarm boxes has created considerable controversy among fire officials both in the London area and throughout England. This FIRE ENGINEERING correspondent searched the files of its contemporary, "Fire Protection" whose editorial offices are in London. I found several outspoken critics of Mr. Delve's system.

First, proponents of the firebox system declare that fire boxes are more simple to operate than phones. London fireboxes operated similarly to the standard United States type of box.

Secondly, transmission of an alarm through a firebox is argued to be much faster. An experiment in Manchester, England, showed that transmission of an alarm through the firebox had a *one minute and 50 second advantage* over use of the phone.

Moreover, London's telephone system is not self-testing as were the fire alarm boxes. The caller, until he picks up the receiver, does not know whether the device is functioning or not. And imagine the headstart a fire conceivably could get if a person rushing into a Tube (subway) or other public phone station to report a fire found that all booths were occupied and the callers refused to relinquish the phone.

At night, should the light in one of these outdoor kiosks be burned out, an excited person looking for a phone might easily overlook it. If he did find the phone he might not be able to dial "999" in the darkness of the booth. (The public is instructed, on page 2 of the telephone directory, how to give "999" calls in the dark.)

This correspondent found the following table reproduced in a back issue of "Fire Protection" magazine. It compared the number of alarms, telephone and box, received by the London, Manchester, and New York fire departments during 1947:

	No. Calls From All Sources	Fire-box	False Alarms	% of Box False Alarms
London	36,047	12,013	7,929	66%
New York..	56,439	32,607	10,279	31%
Manchester.	1,929	383	271	73%

Liverpool met its false alarm problem by installing turret gongs on its boxes and illuminating them. When the box is pulled the gongs ring loudly. *Since installation, false alarms have practically ceased!*

Other opponents of the plan point out a "999" call does not go directly to the fire brigade. The caller, until he has tried the phone, does not know if it working.

A coded fire alarm system, according to its proponents, reports its defects as well as fire alarms rapidly and directly to the fire department. Time of receipt of the call is automatically stamped on the tape and provides accurate evidence at a coroner's inquest.

As for the argument that the "999" system decreases false alarms, it is argued that it is easier to send a false alarm from the relative privacy of a telephone kiosk than when the person pulls a street fire alarm box.

Another disadvantage of the "999" system conceivably could come from

(Continued on page 75)

Photo by Paul C. Ditzel

A modern pumper of the London Fire Brigade. Note the two bells on it. London fire equipment uses no sirens. The brigade's pumpers also carry ladders on their roofs. Hose and other equipment is stored inside and at the rear of this vehicle.

Arson Investigation

1. Kinds of Arson; Pyromania; Juvenile Fire Setting, Sabotage

By BERNARD W. MULCAHY
Chief, Fire Prevention Bureau, Cleveland, Ohio

During the past twenty years, arrests and convictions for arson have been reduced by more than fifty per cent. Even so, the over-all property loss chargeable to arson still represents a major factor in the nation's annual fire loss.

Many groups have had a hand in bringing about the reduction in arson losses, including the National Board of Fire Underwriters, International Association of Fire Chiefs, National Fire Protection Association, International Association of Chiefs of Police, Federal Bureau of Investigation, Fire Department Arson Squads, the Purdue University Seminar and Training Course in Arson Detection and Investigation, State Fire Marshals, insurance companies and others.

That there is still much to be done in further reducing arson losses is generally recognized.

Successful arson control depends in great measure on the ability of investigators in apprehending incendiaries and building up air-tight cases against them. In this work, the assistance of professional fire fighters is invaluable. The fire fighter, usually the first to enter a building involved by fire, is in a position to detect arson and to secure, or preserve, evidence needed in prosecution of such cases.

It is to guide the fire fighter in what to look for, and what to do in the event that the fire appears of suspicious origin that this series of articles on Arson Investigation by Bernard W. Mulcahy, Chief, Fire Prevention Bureau, Cleveland, Ohio, is published. The Editor.

THE malicious starting of a fire with the intent to damage or destroy property is usually referred to as "arson." This term was derived from the old common law, and inasmuch as under the common law, arson is committed only when a person burns someone else's dwelling, this term fails to cover all criminal burning. However, the model Arson Law, and most state laws today, provide that a person commits arson if he burns a building, the property of himself or another. Moreover, most states have enacted statutes which are patterned after the model arson law and provide lesser penalties for burning property other than a dwelling. These laws also provide penalties for preparing to burn a building or attempting to set a fire, whether or not an actual fire results.

The motives for arson fall into five categories. They are:

1) Fraud fires for profit.
2) Revenge.
3) To cover another crime, or fires started in commission of a crime.
4) Fires by irresponsible persons.
5) Sabotage.

Inasmuch as the investigation and detection of all incendiary fires is the duty of the fire department, every fireman from the Chief to the latest member should know how to detect a set fire and how to recognize and preserve evidence. The actual investigation of these fires should be carried out by assigning a man, or men, depending upon the size of the city, that have had special training in this work. The Fire Chief should call upon the State Fire Marshal's Office, the special agents of the National Board of Fire Underwriters, and the various agents of the U. S. Government, when the need arises, for help in these cases. The person or persons assigned to the investigation of incendiary fires should be sent to the course in arson investigation, held each year at Purdue University. They should be trained in investigation work and should, when possible, have legal training.

The investigator should be required to write full and detailed reports on all his investigations. In the Chief's Office, Fire Prevention Bureau or Arson Squad's Office, there should be a complete file and all necessary records of each case investigated. There should also be photographs, fingerprints, reports from the chemist, and a cross reference card file, so that the investigator may have at his fingertips all necessary information to aid him in his work. All undetermined fires, whether suspicious or not, should be thoroughly investigated. In cities or towns too small to employ a full time investigator, a man should be assigned on a part time basis to work with the special agent from the National Board or State Fire Marshal's Office. No city or town is too small to have incendiary fires.

Fires for Profit

Fraud fires are usually set to defraud the insurer and, in a few cases, to break a lease, or for the purpose of writing off obsolete property for tax purposes. While there has been a marked reduction in this type of fires since World War II, we still have a few crooked fires and must always be on the alert to detect them. Very often we find a fraud fire where we would least suspect it.

An analysis of the large loss fires in a number of cities demonstrates clearly that even in time of business prosperity there are many fraud fires. This is demonstrated by the fact that fifty to sixty per cent of the large loss fires are classed as undetermined or incendiary. Such figures demonstrate that we do have many fraud fires in good times.

There is a definite relationship between fraud fires and business conditions. This relationship was clearly shown during the depression years of the early 1930's. Today, we have few fraud fires because business is good, prices are rising and there is a shortage of goods and materials. However, there is no closed season on fraud fires and many crooked businessmen, with large unsaleable inventories, often decide to "sell out" to an insurance company.

An example of a recent fraud fire in Cleveland will illustrate this point. On

Nitrocellulose moving picture film used as a trailer in a typical arson setup.

This $500,000 fire was started to destroy incriminating evidence of a theft.

the afternoon of January 9, 1951, at 3:59 p.m., a fire broke out in a fourth floor apartment of a twenty-eight suiter on Carnegie Avenue in Cleveland. Due to the good work of the fire department, the fire was held to the suite and there was no loss of lives. Rescue work was made extremely difficult because of a temperature near zero, and an accumulation of ice and snow on fire escapes and sidewalks.

The investigators assigned to cover this fire found that the occupants of this suite, an old man close to eighty, his son, an ex-convict, and the son's wife, had been drinking all afternoon. The old man had retired between three and four p.m. He was dressed in an undershirt and a pair of trousers and had no shoes on. His son entered the room, thinking the old man was asleep, poured lighter fluid over the bed and the furniture. The old man who had been feigning sleep, then saw his son strike a match, of the old parlor-type, and throw it into the bed clothes. Almost instantly the entire contents of this room was involved in flames. The son then ran through the other rooms igniting the furniture, which was covered with a flammable liquid used to fill cigarette lighters. After this, he ran out the door. The old man escaped through the kitchen and was rescued by firemen from the rear fire escape.

The son and his wife had removed all personal effects, such as clothing and radio from the apartment prior to the fire. Investigators also found that the fire had originated in four different locations. The kitchen, dining room, living room, bedroom and hallway leading to the inside stairs, were completely involved with fire when the fire department arrived. The furniture was burned and charred deeply, indicating the use of a stimulant. Inquiries among the neighbors disclosed that the son had attempted to sell some of the furniture on the afternoon of this fire.

When the son found that the fire was being investigated, he forced the old man by threats of violence to accompany him to Birmingham, Alabama, where he again made an attempt on the old man's life. This time he was arrested by Birmingham Police. However, the old man, not waiting for a formal hearing, left for California to make his home with another son, who resided in San Francisco. The Birmingham Police were forced to release the suspect for lack of evidence. However, the son was again arrested in New Orleans on a robbery charge, convicted and sentenced by the Louisiana authorities.

Since the fire the old man has died and, without him, Cleveland has no case. The motive for this fire was to kill the old man, obtain possession of an eight-thousand-dollar estate, three-thousand-dollar life insurance policy and to collect the fire insurance on the furniture.

Fires for Revenge

While the motive of revenge is not a common one, most cities have several incendiary fires of this type each year. These are the most despicable of all arson cases. They are usually motivated by an implacable hatred for some real or imaginary wrong. Under this heading we have the neighborhood feuds, such as racial fires, disgruntled employees, people who have lost in a lawsuit and believe themselves to be the victims of an injustice, and the most prevalent of all—jealousy.

A frequent source for this type of fire is the rejected suitor, or the wife or husband who is divorcing his spouse. They suspect the object of their affections of unfaithfulness. These people have, as a rule, a moody personality and are given to brooding. Nursing their jealousy until it becomes unbearable, they become spiteful; then in a spirit of hatred they will seek revenge. Their action is dictated by fear and hate rather than bravery, and very often their craving for vengeance takes the form of an incendiary fire.

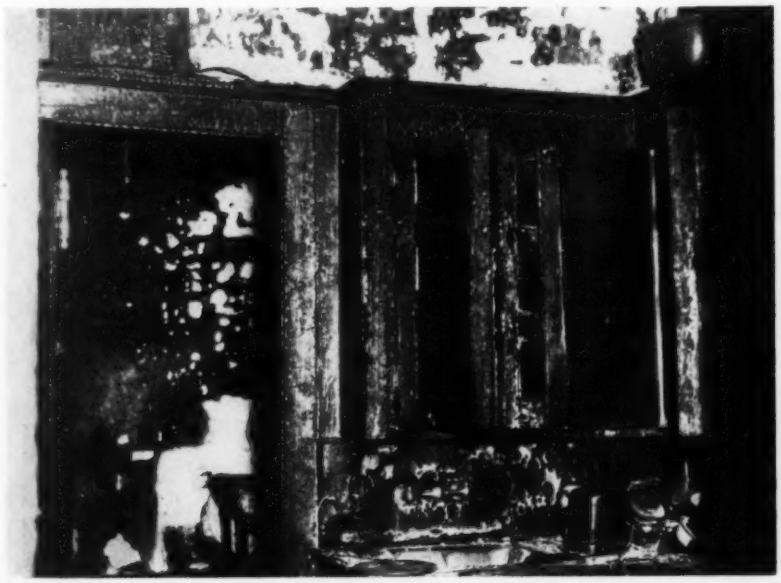
They are, however, known to their intended victim and don't dare attack in the open. Skulking about, they usually strike at night, starting their fire under a stairway or in a hallway or basement. Sometimes these people use crude incendiary bombs and employ gasoline or other flammable liquid. Very often they are successful, and a sickening scene of death and devastation gives mute testimony of the incendiary's craving for vengeance.

The avenger usually desires to witness his vengeance in order to derive pleasure from it. Frequently he can be found on the scene of the fire and can be pointed out by his intended victims. In other cases, he will contact the object of his vengeance to gloat. In any event, the investigator usually knows the culprit he is after, and thus he is easily apprehended.

This type of arsonist will seldom frankly confess his crime, and usually has an alibi. However, when interrogated he is usually muddled and uncertain as to his whereabouts at exact times, and makes it sufficiently evident that he is not telling the truth—thus aiding the investigator to break this alibi and obtain a confession.

The following case will illustrate a fire set for revenge:

At 12:56 a.m., May 24, 1951, the fire department was called to a three-story frame tenement at 6707 Quimby Avenue, in Cleveland. The rear porches of this tenement were completely involved with fire. The battalion chief in charge noticed a strong smell of kerosene and called the Arson Squad. In sifting the ashes, members of the Arson Squad found fragments of a wine bottle. There was a pronounced odor of kerosene, and the bottle was taken to the city chemist



This fire was set in a murder attempt to gain possession of an $8,000.00 estate and collect the insurance.

for analysis. The chemist reported that the bottle had been filled with a low-flash flammable liquid.

Upon questioning the tenants, as to whether any of them had had any trouble with anyone, the investigators found a Mrs. Vincent Foglio, who stated that she had been separated from her husband for a week and was making her home with a sister, who lived in this tenement. She stated that she had been getting many threatening telephone calls from her husband and that her sister also had received such calls. She was unable to give the investigators any information as to where her husband could be located. However, in checking, the investigators located the husband working in a hospital in the suburbs.

Before he could be apprehended, he again telephoned his wife and asked to make a date with her to talk things over. Members of the investigating squad advised her to make this date and to meet him. They too were waiting. When he arrived, he was driving a stolen automobile. However, suspecting something was wrong, he speeded up to escape. His speed was such that he was unable to make a turn and crashed into a pole, wrecking the automobile.

When interrogated about the fire, he confessed that when his wife left him he was out of his mind. He begged her and her sister to let him come in and talk things over. He told her that he would be at the end of his rope if she insisted upon leaving him and getting a divorce, and begged her to come home with him; but she refused. He called his wife and her sister and told them that if his wife did not come back to him they would be sorry. They just laughed at him and hung up. He then stopped at a cafe and, after consuming three or four drinks of whiskey and a bottle of wine, he took the empty wine bottle in a cab, and filled it with kerosene. Making a wick of some old rags, he ignited it and then threw it under the wooden porch. He said that he had no intention of burning the little children in the tenement nor to hurt anyone. He only wanted to scare his wife and her sister so that the sister would throw his wife out.

Revenge was the motive for this fire, when a jealous husband threw a "Molotov cocktail" under the rear steps of a tenement house, cutting off the escape of the occupants.

Vincent Foglio was convicted of arson and sentenced to an indeterminate term in Mansfield Reformatory.

Fires to Cover Another Crime, or Started in Commission of a Crime

Fires to cover other crimes are quite common. These fires range the entire gamut, from murder to robbery. A murderer will often set fire to a building to destroy the evidence on his crime. It is for this reason that a badly burned body found on the scene of a suspicious fire should always be turned over to a pathologist, for post-mortem examination. A pathologist is a physician trained to know the structure and appearance of healthy tissue and bone, and to recognize the changes produced in them by disease or violence. He can determine the cause of the death in a body that has been charred beyond recognition, and also determine whether death occurred before or during the fire. He can likewise determine whether there was any violence and if death was caused by a bullet wound, fracture or if there was any internal hemorrhages before the body was burned. A pathologist can help in the identification of a body found in the ruins of a fire by determining the age, sex and height of the victim.

Where a fire has been set to destroy books, paper or other records for the purpose of covering up embezzlement, tax fraud or similar crime, an expert on charred documents will often defeat the purpose of the arsonist. With the aid of chemicals and photography he can decipher these charred papers and can furnish pictures which will reveal the contents of the original document. Robbery and theft can often be uncovered by careful examination of the ruined premises. An open safe, or jimmy marks on a door, opened desk drawers offers valuable clews that a robbery had taken place before the fire. Money is seldom completely destroyed and it often can be determined whether a thief may have set the fire to cover his crime.

Fires started in the commission of a crime in most states are classed as incendiary. The fires are usually started by a burglar carelessly discarding matches or cigarettes, while in the act of looting a home or business establishment; or they are set off by safe blowers in opening a safe. These fires are quite frequent since burglars are using acetylene torches to cut into a safe or strong box. Burglars may also overload an electric circuit by using drills and other tools in attempting to force open safes and strong boxes.

The following case of a fire which occurred on May 12, 1951, in Cleveland, will illustrate a typical fire set to destroy evidence of another crime:

The building involved was a five-story brick commercial, of multiple occupancy. It occupied an entire city block and was completely destroyed, with a loss of over one-half million dollars. The fire occurred at 6:00 p.m., on a Saturday, necessitating a fifth alarm, and hospitalized seventeen firemen.

Investigators from the Arson Squad discovered that three men, one of them an official of a Spring Company on the third floor, had been drinking and playing cards in the office after the establishment had closed at noon on that day.

Further investigation revealed that one of these men had reported the theft of a billfold containing seventeen dollars

People of unsound mind are often religious fanatics and set fire to churches and similar institutions.

in cash and six hundred dollars in paychecks, belonging to the Betz-Manley Company. Upon investigating this theft, the investigators discovered that James Fox, Richard Crucza and Henry Calhoun, had started to drink in the office after the other employees had left, that they had brought in several bottles of whiskey, which they consumed, when Henry Calhoun, an official of the company, complained that his wallet was missing. Fox said he would call the police, which he pretended to do. This occurred about 2:00 p.m. When Calhoun found that the police were not going to respond, he left the building and went home. However, he had a hard time trying to persuade Fox to unlock the door to let him out. When he reached home he told his family what had happened, and his daughter reported the theft.

After Calhoun had left, Fox produced the stolen wallet, and went into the factory. Taking the paychecks from the wallet, he set fire to them on a sheet of tin near a large dip tank. That was between 5:00 and 5:30 p.m.

Sawdust on the floor around the machinery ignited by the burning checks, set fire to the flammable liquid in the large dip tank. Shortly after, the fire spread over the entire floor. Open elevator shafts and stairwells soon spread the fire throughout the entire building, which burned with a loss of over one-half million dollars.

Fox and Grucza were arrested and charged with arson. Fox pleaded guilty to burning personal property and is now serving a term of from one to seven years in the Ohio Penitentiary. Grucza turned State's Evidence and was "no-billed" by the Grand Jury.

Fires by Irresponsible Persons

When any person of unsound mind is convicted of arson, he is usually referred to as a pyromaniac. Fortunately, all neurotics and psychotics with a compulsion neurosis, who start fires are not true pyromaniacs. Pyromania is a persistent impulse to incendiarism. Or in other words——a pyromaniac is a person of unstable mind with an uncontrollable urge to start fires, and should be classed with the kleptomaniac, who has an irresistible impulse to steal. There are many types of insanity related to fire setting, which cannot be classed as pyromania.

For this reason, it is impossible to discuss profitably all the different types of neurotic and psychotic personalities that an arson investigator will encounter in his day's work, in an article of this type. However, the psychological factor is so important in this type of investigation that a successful investigator must have a thorough knowledge of human emotions and actions, and a real understanding of the people suffering with a mental illness who are liable to start a fire.

Therefore, we shall outline the more prevalent types of insanity and neuroses associated with the setting of fires.

Mental ill health is more common than physical ill health, but is seldom recognized until it takes the form of undesirable character traits, which may involve the person affected in trouble with the authorities.

While no one can say precisely what is average or normal intelligence, and it is often difficult to determine borderline cases, we all know that the world is full of hopelessly irresponsible and stupid people. These people are considerably limited in their powers of adjustment and frequently get into trouble. Their mental deficiency is related to their offense and many of them are like children. They enjoy being around fire stations and firemen. Many of them start fires for the thrill, and often stay at the scene to help the fire department or seem important by telling anyone who will listen to them, of their connections and acquaintances on the department. This type cannot be classed as true pyromaniacs, but start fires for the thrill and the feeling of importance it gives them.

Psychiatry can tell us very little as to the real causes for these diseases. In some cases there is a hereditary predisposition. Others are precipitated by grief or illness, but in many cases there is nothing to account for the mental break. However, the arson investigator need not know why a person is insane in order to know if the fire was started by someone of unsound mind. He can suspect such a person when there is no apparent motive for the crime and there have been other fires of a similar nature in the area. However, no investigator should attempt to pick a suspect from his physical appearance. While there is a wide-spread belief that one can identify deficiency by facial appearance or physical development, this is erroneous, except in extreme cases. It is much safer in these cases to pick a suspect from his manner and social behavior.

Crippled Personalities

These people are those who, because of an inherent defect in their constitution due to physical accident or diseases, have lost their adaptive capacity, in varying degrees. Here, we would include those afflicted with thyroid disorders, pituitary disorders, deafness, brain tumors, encephalitis and general paresis.

Many of these people seem to have unusual difficulties in adjusting to their environment and are prone to get into difficulties with their neighbors. They often become agitated or depressed, and in some cases have hallucinations. Often they become irresponsible and run afoul of the law. In a few cases, this type may set fires.

In this category we would include the stupid, or hypophrenic. These people are handicapped by their inability to think clearly, learn readily or make decisions. Scientifically they are termed hypophrenics. The vulgar term is "dumbbell." They cover a wide range, from the slightly sub-normal and morons, to the imbeciles and idiots. Many of them are like children and start fires in a spirit of sheer mischievousness.

The Insane

The primary mental diseases may be classed under three broad classifications: Schizophrenia. Paranoid-Psychoses and Mania-Melancholia. These are all serious mental diseases which may affect their victims suddenly as a result of grief, disappointment or physical illness, or they may occur insidiously in a gradual deterioration, but in all cases they produce strange effects.

SCHIZOPHRENIA—A schizophrenic is a person with a split personality. Reduced to its simplest terms, people suffering from this form of insanity are unable to get along with other people. They are the queer personalities who never have any friends and are usually misfits in society. The schizophrenic is noticeably eccentric and is frequently anti-social. He does not suffer from delusions or hallucinations. Many of them are shiftless, simple and lazy. They are the vagabonds.

However, once the schizophrenic personality has broken, these people need help and protection. Very often the victims of a schizoid break are burning with hate and fear. They frequently plot retaliation for some imaginary wrong. Many of them are dangerous and start fires for revenge. However, as a general rule, these people give the arson investigator very little trouble and figure in few arson investigations.

PARANOIA—Paranoia is a technical word to describe persons suffering from a form of insanity in which the person so afflicted is unduly suspicious and jealous. They have delusions and visions, and are given to fits of anger and rage. They are forever tortured by doubts and fears and are obsessed with bitterness, and carefully lay plans for defense and revenge. This class is most dangerous and they are capable of any crime. A great number of incendiary fires comes from this group. Many people suffering from paranoia who may, in the estimate of their friends and relatives, be considered only mildly eccentric or disagreeable, are violently insane and capable of most any crime.

MANIA-MELANCHOLIA—The melancholy suffer from excess of elation and depression and there are many varieties of these moods. While in one of their emotional swings, they can be clearly recognized as psychiatric cases. At other times they appear normal. These people are seldom connected with arson cases. However, some of them are over impulsive and in a sudden erratic outburst may start fires.

Chapter 1 will be continued in the February issue.

Illinois Institute Offers Fire Scholarships

Half-tuition scholarships to Illinois Institute of Technology valued at $162.50 a semester, or $325 a year, are being offered to Korean war veterans for the second semester of the 1952-53 academic year, starting Feb. 9 next, under the "Korean G. I. Bill" which became effective last July.

Tuition grants are for one year but may be renewed if the student's academic performance is satisfactory, it is said. Scholarships may be used in any of the Institute's three divisions: the division of Engineering which offers 14 curricula including the department of fire protection and safety engineering.

Illinois Institute is the only engineering school in the country offering a degree-granting curriculum in fire protection and safety engineering. Under the terms of the Korean G. I. Bill, veterans pay tuition out of their government allowances. The Illinois Institute scholarships reduce the amount of payments by one-half. Scholarships are awarded on the basis of previous academic records in high school or college, or on performance in Illinois Institute's entrance examination.

Information on the scholarships may be obtained from the Illinois Tech Admissions Office, 3300 South Federal Street, Chicago 16, Ill.

Practical Fire Service Rescue

Part 3 of a Series

By JOE MAHAFFEY*

PUBLIC demand for the services of the Fire Department Rescue Squad is increasing daily. The source of demand is not limited. Hospital organizations, private doctors, industrial organizations, law enforcement agencies, persons in charge of places of recreation, persons liable for public welfare, the householder, the man on the street; all are helping to increase this demand. Rather than a liability, the increase in demand is an asset to the Fire Service. The services performed by the Rescue Squad can be one of the best mediums we have for good public relations, if the man responding knows what he is doing.

The causes for response are many and varied. Some of the major causes are fire, flood, earthquake and explosion. Some of the minor causes are vehicle accidents, airplane accidents, water accidents, electrical accidents, industrial accidents, accidents in the home and on the street, collapsed structures, cave-ins, gas leaks, persons trapped in trees, persons locked in or out of premises, and sudden illness.

The most common cause for response is an asphyxial condition occurring in the home. Some of the least common causes are: attempted suicide, emergency maternal delivery and clearing premises of toxic or asphyxial gases. An understanding of the type of first aid we should give to the victims of cause of response in a few cases can help us to understand the first aid phase of all causes of response.

Poison Cases

Cases of poisoning should be considered first because poisoning was the original reason for the inception of the Rescue Squad and the inhalator in the Fire Service. We speak in this instance of poisoning by breathing toxic gases. Carbon monoxide, prevalent in all fires, has been the cause of the death of many firemen. Heads of fire departments learned long ago that the best first aid for personnel overcome by smoke was the use of the resuscitator and inhalator.

Carbon monoxide is a poison and an asphyxiant. It is an odorless and colorless product of incomplete combustion. The red corpuscles of the blood have a far greater affinity for carbon monoxide than for oxygen. Carbon monoxide forms a chemical compound with the hemoglobin and prevents the red cells from carrying oxygen. When uncontaminated air is not available a condition soon develops wherein there is a great deficiency of oxygen. The symptoms of carbon monoxide poisoning may be so subtle and sudden that firemen, working in a structure where gases have been confined, may drop helpless before they are aware that anything is wrong. Unconsciousness, stoppage of breathing and death soon follow. On the other hand, a fireman may sense the danger and crawl or stagger out of the building, then collapse. The skin may be a peculiar cherry red in color or it may be cyanotic. The situation is serious. If there is apparent stoppage of breathing, use the resuscitator immediately. If he is breathing, administer oxygen. Treat for shock. Continue to administer oxygen even during transportation to the hospital or until the color of the skin returns to normal and he is in full control of all his faculties.

Other poison cases that may be the cause of response can be divided into two classifications: external and internal. External poisoning is usually the result of an accident. The first aid treatment is:

(1) If the nature of the poison is known and the agent that will neutralize the poison is known, available and harmless, neutralize the poisoned area. (Example: If the poison is carbolic acid, neutralize with rubbing alcohol.) Flush off thoroughly with water. Bandage the area, using a dry dressing or compress. Treat for shock. Send to a doctor.

(2) If the nature of the poison is not known, flush off with water. Bandage the area, using a dry dressing or compress. Treat for shock. Send to a doctor.

Internal poisoning may be the result of poison taken by mistake, believed to be something else; through carelessness, as leaving it where children can get it; unintentionally, as in the case of food poisoning; or it may have been taken or given by design, as in the case of attempted suicide or homicide. In the cases of attempted suicide, the victim may resist any first aid treatment.

Internal poisoning has many complications. The treatment of poison cases is a broad study, so broad that some physicians specialize in this particular field. Some doctors will not start even rudimentary treatment until they have some background of the case. Rescue personnel can hardly be expected to analyze and prescribe correctly in emergency cases. To do the wrong thing can be disastrous. Here are a few facts to consider:

(1) Never give anything by mouth to an unconscious person or person who is not in full control of his faculties. A person suffering from internal poisoning is not apt to be in full control of his faculties.

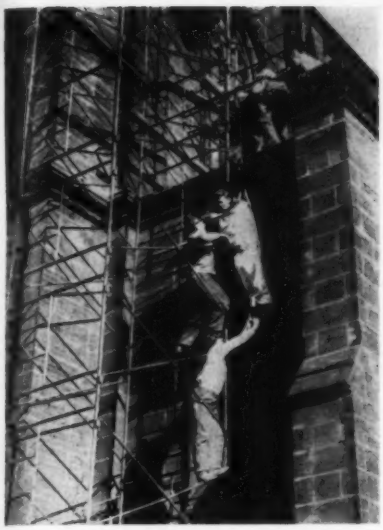
(2) Some poisons do as much harm coming up as they did going down. The giving of emetics is for the medical man, not for the layman.

(3) The apparent visible evidence of the poison taken, such as empty bottle, container, etc., is not necessarily proof that the poison taken was as indicated thereon. Giving the wrong antidote can also be disastrous.

(4) Assembling a background of the case can be more helpful to the doctor than any therapy applied to the victim by lay personnel.

The Rescue Squad's work sometimes continues right into the hospital. An 88-year-old woman, victim of fire and burns, gets oxygen at a Chicago hospital emergency room, where she was brought by members of Rescue Squad No. 3 of the fire department of that city. The Squad administered oxygen en route to the hospital as well.

*Los Angeles County Fire Department.



Unless great care is exercised in moving an injured person, even greater injury may result. Irreparable damage to the spine has resulted from careless handling of a person suffering from bone fractures. Above are shown rescue operations performed by members of the St. Louis Fire Department whereby a metalworker injured by a fall from scaffolding, is lowered safely to street.

In public service, this advice is given in the first aid treatment of poison cases:

(1) If there is stoppage of breathing, start resuscitation.
(2) If the victim is breathing, administer oxygen.
(3) Treat for shock.
(4) Make notations of any of the following information you have time for:

(a) How long ago was the poison taken?
(b) When was the victim first seen in this condition?
(c) What was taken?
(d) Has the victim vomited?
(e) Was the gas turned on and not lighted?
(f) Was the gas lighted and windows and doors closed?

Gather any physical evidence such as bottles, boxes, loose pills, etc.

(5) Rush victim, notations and evidence to hospital. Use resuscitator or administer oxygen during transportation if necessary.

If the case is suspected suicide or homicide, or attempted suicide or homicide, careful notes should be taken for the Coroner or investigating officers. Fire department logs may be subject to subpoena.

Electric Shock

In structural fires serious electric shock can occur to firemen at any time. Fallen conductors do not have to carry high voltages to cause death or serious injury. Serious electric shock can cause immediate stoppage of breathing, temporary paralysis of vital organs, ventricular fibrillation, internal and external burns and damage to tissues, and death. There may be an appearance of death, yet hope for revival for several hours. Don't give up. Treat as follows:

(1) If there is stoppage of breath, start immediate resuscitation.
(2) If the victim is breathing, administer oxygen and treat for shock.
(3) Check for external burns and treat as any other burn.
(4) Try to keep the victim quiet but do not forcibly restrain him. The heart may be in a very weakened condition. Do not let him walk to ambulance; carry him in a stretcher.

Asphyxial Cases

Causes of response due to respiratory trouble are more common than all others. There are many causes for asphyxia. Heart attacks, asthmatic conditions, gas poisoning, drowning, choking, hanging, serious blows and suffocation are some of them. Responses to heart attack cases are the most prevalent. Such cases should be treated as follows:

(1) If there is stoppage of breathing, start resuscitation immediately. If there is no circulation, oxygen and artificial respiration can do no good, but it is not for the layman to attempt to decide whether or not there is circulation.
(2) If the victim is breathing, administer oxygen until directed to stop by a doctor. Let the victim lie or sit in whatever position he can breathe the best in. Prop him comfortably in that position.
(3) If the victim's face is flushed, apply cold packs to the head, otherwise treat for shock.
(4) Comfort the victim, for he may have great fear. Obtain medical aid.

In asthmatic cases, administer oxygen.

In the other cases, remove the cause if possible. Obstructions in the throat can sometimes be dislodged by bending the victim over and slapping him sharply on the back. Later types of approved resuscitators are so designed that oxygen can be gotten into the lungs, in spite of obstructions and laryngeal spasms, in sufficient quantity to maintain life until medical aid can be obtained. If the obstruction cannot be removed, slow the machine down with the control valve until the oxygen by-passes into the lungs. Laws prohibit lay personnel from performing any type of tracheal operation. Otherwise treat any of the cases the same; resuscitation or inhalation, whichever the case may be. Treat for shock. Obtain medical aid or send to hospital.

Accidents

Responses to accidents are frequent. Damage to the human body may be the result of any accident. Causes of response may range from the airplane crash and vehicle accident down through the industrial and water accident to the minor incidents in the home, as hands caught in washing machines and children falling out of trees or caught in fences.

Fractured bones, spine injuries, concussion, crushing injuries, sprains, wounds and burns are often involved in these cases. If fire, toxic gas or explosion is an imminent danger, of course, the victim must be removed to safety, regardless of his physical condition.

If there is no immediate danger from an outside source and none of the exigent dire emergencies exist, time should be taken to check carefully before touching or moving the victim.

If the victim is dazed or unconscious or there is bleeding from the nose, mouth or ears, a scalp wound or bump on the head, or the pupils of the eyes are unequal in size, or evidence of partial paralysis, assume that there is a critical head injury.

If the victim is conscious and complains of pain in the neck or back, ask him to move his fingers and toes. If he cannot move his toes, or his fingers and toes, assume that there is a critical injury to the spinal column. If there are either head or back injuries, the greatest of care and judgment must be exercised in handling him. Try to ease him onto a rigid board, door or stretcher without changing the position of the head or back or using undue pressure. If possible, immobilize him in that position for transportation.

When limbs are fractured, immobilize them in the position you find them with padding, splints and bandages. Rescue personnel are not advised to attempt traction or the reducing of dislocations. Remember that even a specialist does not like to move fractured limbs until he has had a chance to take x-rays and study the case. This advice applies to cases where transportation to medical service is immediately available.

If there is a compound fracture, first control bleeding, do not let the exposed ends of bones slip back into the flesh, do not attempt to clean them. Apply a dry dressing and bandage; then immobilize.

Treat sprains and crushing injuries the same as a fracture. If there is time before the ambulance arrives, cold packs may be applied to a sprain. To immobilize, allowing for swelling while bandaging, is more important than the application of cold packs.

Wounds and burns cover with dry dressings and bandages. Treat for shock.

Emergency Maternal Delivery

In modern times careful pre-planning is done for the event of childbirth. Delivery is usually accomplished under the strictest of hygienic and sterile conditions. Expectant mothers, knowing the

The use of a stretcher, or even an improvised one, may prevent aggravation of injuries of a person involved in an accident. Freed from the twisted cab of a wrecked tank truck, the driver is shown here being carried from the scene of the accident by four firemen.

Fire fighting and first aid problems are frequently met jointly upon the arrival at the scene of a highway crash. The driver of the car at the left was killed and his wife seriously injured when their car collided with semi-trailer near Ann Arbor, Mich. The injured woman, thrown out of the car by the impact, lies on the pavement near the open car door. The truck driver was uninjured.

importance of these conditions, are usually well informed regarding the symptoms that will point to the proximity of the time for confinement and have plans for the trip to the hospital.

When symptoms are normal there is always ample time to reach the hospital according to pre-made plans.

Most hospitals having maternity wards and delivery rooms are fully equipped to take care of every emergency. However, some hospitals, particularly the emergency hospital, may call on the Rescue Squad when the need for resuscitation or oxygen is expected. If time permits, personnel may be required to don aprons, caps and gauze face masks, supplied by the hospital, in keeping with hygienic conditions. If there is this much time, personnel should wash their hands.

Usually there will be a nurse in attendance who will take care of the preliminaries, as using a catheter on the baby, etc. In this case the only function of Rescue personnel is to give resuscitation or administer oxygen to the baby or mother, whichever the case may be.

On the other hand, the doctor may be operating short-handed, in which case he may give the care of the baby entirely into the hands of the rescue man while he attends to the mother.

The baby may cry spontaneously as soon as it is born, be pink in color and breathe every rapidly, which is normal. There is nothing for the rescue man to do in this case but lay the baby down and wrap it in whatever has been provided, for warmth, and stand by for any orders from the doctor.

The baby may not cry or breathe immediately. If this is the case, pick him up by the heels with one heel between the thumb and forefinger, the other between the forefinger and second finger. Stroke the back gently up and down once or twice or tap the heels with two fingers; this may cause crying. If it doesn't, spank the buttocks gently a number of times. If this still doesn't produce crying, assume that the throat is clogged with mucous. Shake the baby gently while it is still upside down and run the thumb and forefinger down the exterior of the throat with a milking motion. Swab the throat with a gauze covered finger. Don't take time for more than one more spank. If crying doesn't start, lay the baby down on his back and cover him. Use the aspirator to swab the throat and start resuscitation. Inform the doctor of your difficulties and be advised by him. When babies are blue or cyanotic looking and apparently lifeless, aspirate and start resuscitation immediately.

On some occasions the symptoms that advise of the proximity of time for confinement are not normal and an expectant mother is overtaken, or fears she is about to be overtaken, by the stork en route to the hospital. The Rescue Squad may be called to respond to delivery on the street, or in a taxicab or private car. There may not be a doctor present, in which case the rescue man is on his own.

Always bear in mind these two facts:

(1) Hygienic and sterile conditions are highly important to safe delivery; they cannot be found in the field.

(2) Symptoms can sometimes be misleading and even fool the expectant mother. Frequent and intense labor pains will in all probability leave plenty of time to reach the hospital. The breaking of water may occur before the final labor pains. A thick, bloody mucous may discharge from the vagina and there still be time to reach the hospital. If actual birth is taking jlace, use all possible means to deliver the patient to medical aid, preferably her own hospital. If actual birth is taking place, there is nothing to do but assume the duties of a midwife.

Prepare the stretcher. If you carry a rubber sheet cover the stretcher with that first. Next a blanket. Next a sterile sheet. Have two towels, an extra sterile sheet, blanket, string and shears handy. If there is time, rinse your hands with rubbing alcohol and wipe dry; douse the string in alcohol. Open the resuscitator case and attach an infant size mask. While working have police officers keep back the curious. Sometimes a salvage cover can be arranged to close off the view of the morbidly curious.

When symptoms and actual birth occur so quickly, it is usually a normal and easy birth. The placenta (afterbirth) may not be expelled immediately following the birth. If the baby cries spontaneously and breathes normally and its color is pink, tuck the baby between the mothers legs on the stretcher. Bundle the second sheet and blanket over mother and baby for warmth, allowing for breathing. Load the stretcher into an ambulance and send to hospital.

If the placenta is expelled right after birth, tie the umbilical cord, with string dipped in alcohol, about a foot from the baby's navel, leaving plenty of room for the doctor to retie under more sterile conditions. It usually is not necessary to cut the umbilical cord after tieing unless attachment of the placenta actually interferes with operations.

If the placenta has not been expelled and it is absolutely necessary to separate the baby for purposes of resuscitation or transportation, make two ties two inches apart a foot from the baby's navel and cut the cord between the ties. Handle baby, cord and placenta as little as possible. Do not poke any exposed portion of cord or placenta back into the vagina. Do not dispose of any portion of the placenta. The doctor will want to examine everything expelled to make sure nothing was left inside to cause infection.

A casual amount of blood and other fluids is to be expected If excessive hemorrhage takes place in the mother, it is an urgent case for quick medical attention. You may be able to slow or stop hemorrhage by pressing the hand into the abdomen above the navel with a kneading motion; but under no circumstances should you pack gauze or other substance into the vagina to stop bleeding.

Breech cases are strictly for the physician except that you may press firmly on the abdomen below the navel if all of the baby's body is out except the head. Do not attempt to pull the baby out. It is better to risk death to the baby than to risk injury to both mother and baby.

In cases of abortion (miscarriage), the danger of hemorrhage, infection and serious shock is very great. Waste no time in getting this case to medical aid. In this case too the doctor will want to examine everything expelled.

General Fire Service First Aid Rules

Don't attempt to remove any foreign object or substance stuck in the eyes, in or on wounds or in or on burns. The exception to this is acids or chemicals, which continue to burn or damage tissues. They may be flushed off or out with water or a harmless diluting agent and water,

If the victim of an accident is unconscious, assume that there is a serious head injury

When a victim is unconscious or in shock, use gravity to help nature. If the face is pale, lower the head slightly so the brain may receive the necessary amount of blood. If the face is flushed, raise the head slightly to relieve the possibility of too much pressure on the brain.

When possible, elevate and immobilize injured parts to relieve pain and throbbing and check blood flow.

In public service, don't attempt any form of definitive treatment. Never treat even minor cases without advising that the victim see a doctor.

Use the simplest form of first aid that is effective.

Fire Service Rescue

Rescue means to liberate; to set free from danger. In the Fire Service the activities of the Rescue Squad are not confined to rescue from fire. More and more, as time goes on, the public is depending on the fire department to rescue persons from all manner of predicaments. One reason for this is that the fire department, above all other public services, is equipped, manned and ready for immediate response every minute of the day or night. This does not mean that other services are not adequate. They are—for the specific duties and times they are designed for. Lifeguard services in most cases are properly equipped for water rescue and there

can be no question about their alertness and efficiency. Ambulance services are properly equipped for transportation of the sick and injured and, like the fire service, respond day and night. Utility companies are properly equipped to take care of the emergencies that pertain to the public service they are giving and respond within a reasonable length of time. Law enforcement agencies respond day and night and often exceed the call of duty to save persons, but seldom is the response accompanied by the type of equipment necessary to rescue.

None of these have the combined facilities necessary to good rescue as has the fire service: communications systems available to the public for immediate response; apparatus equipped and available for response each minute of the twenty-four hours of each day; and the trained personnel available every minute of every day. Unless so prepared the special services could not cope with the types of rescue affiliated with present-day living. Again, the fire department belongs to the public and is subject to its demand; therefore it is the logical and natural agency for those in distress to appeal to for help.

The Rescue Squad, in addition to the responses it makes individually, is requested in many cases to respond as an auxiliary to the other services; and, in many cases, the Rescue Squad must call in the other services to assist in making a rescue.

To properly accomplish rescue in the many forms that is expected of it and to properly work with other agencies when teamwork is necessary, the Fire Service must have trained personnel who understand not only their own duties and laws that govern them, but the duties of others so that actions will not be duplicated, confusing, or illegal. It must have equipment ready for response, or available, to accomplish rescue in its many forms. It must be aware of the hazards attendant to rescue to prevent loss of trained personnel.

Laws Relating to Rescue

There are laws that govern the actions of the Fire Service and its personnel. Those governing fire matters are pretty well established and universal in scope. Those governing rescue are still vague. There may be specific state laws or city and county ordinances that govern the actions of rescue personnel and they may vary in different areas.

To act, in the name of public service, beyond provisions accounted for in local laws and ordinances can subject personnel to political criticism and to legal action. Personnel should acquaint themselves with local laws and ordinances that do exist relating to the following subjects:

Vehicle Code—Response with emergency apparatus.

Duties of the Coroner—Relating to moving or removing bodies in an emergency.

Duties of the Sheriff or Police Chief—Relating to recovery of missing persons—Agent responsible for summons and payment of an ambulance.

Fire Service—Relating to specific legal duties of a fireman—Insurance coverage—Forcible entry not fire-connected.

Building Code—Relating to ordinances covering public assemblage.

Safety Code—Relating to control of toxic gases.

Health Code—Relating to communicable diseases. Generally, the following can be assumed:

Rescue of an unconscious person from a height is sometimes a difficult task. Shown above is a forester swinging on the end of a safety line, fifty feet above the ground, as firemen carry out rescue operations. He collapsed while sawing off a limb of an old elm preparatory to cutting down the big tree at Medford, Mass. He was unconscious when he was lowered safely to the ground, but was subsequently revived.

The Vehicle Code will not relieve the driver of emergency equipment from due regard for the safety of persons using the highway nor protect him from the consequences of carelessness or lack of regard even though driving under red light and siren.

Bodies can be removed from the immediate danger of fire, traffic, flood or other menace. One legal aspect of this case is that usually no competent person has had time to declare the victim dead, and rescue personnel can reasonably assume that there is possibility of life.

Fire departments may not be legally responsible for recovery of missing persons but may be requested to assist in recovery, in which case the obligation is a moral one.

In some areas the Fire Service is the agent in charge of ambulance services. If it is not, then rescue personnel should make sure that legal or special provision has been made for payment of service before summoning an ambulance. Usually, if the fire department does not have legal funds for payment, an ambulance can be procured through law enforcement agencies.

In most cases no legal provision has been made for non-fire forcible entry by the fire department to aid the suddenly ill. Usually, permission by a near neighbor or relative will relieve personnel of responsibility, but personnel are advised to obtain the person's name and have him participate in the entry and remain as a witness. In extreme emergencies, law enforcement agencies may have the legal right of forcible entry. This should be determined in advance, and police officers should be requested to respond with the Rescue Squad.

Rescue personnel should be acquainted with means of ingress and egress in places of public assemblange in the area they serve and should be acquainted with local laws pertaining to evacuation in order to enter to help persons in distress and to evacuate persons without panic in times of disaster.

Rescue personnel should be acquainted with the premises of industries that harbor toxic and asphyxiating gases and know of the legal means of controlling them.

Rescue personnel should know of the prevalent communicable diseases and be advised by the Health Department as to proper procedure when contacting such diseases in the line of duty.

Operations Connected with Rescue

There are many types of operations connected with rescue. Some involve only individual action; others involve the teamwork of several firemen; still others may involve many services, including both the manpower and facilities of public agencies and private corporations. These are major operations. To be prepared to successfully conclude all attempted rescues, the fire department must not only be fully equipped for rescue within in its own means but must have mutual agreements with other public services and private concerns who can supply, on demand equipment and specialized manpower that is not consistent with ordinary fire department routine.

Demolition

Demolish means to tear down, to reduce to ruins. Demolition is the act of wrecking, destruction. Demolition as we speak of it here is further wrecking in order to remove trapped persons.

The necessity of demolition for the purpose of rescue may occur in fire, earthquake, tornado, flood, explosion, spontaneous collapse or traffic accidents. It may be minor and accomplished by an individual with a few hand tools carried in the rescue apparatus. It may be major and require specialized manpower and heavy duty equipment as supplied by road or engineering departments, excavating and wrecking corporations, utility companies and others. It may legally involve other agents as the Building Department and Safety Department; it may involve the carriers and conductors of utility companies.

The extent to which the fire department can demolish without infringing on the legal rights and duties of others is dependent largely on local laws, ordinances and agreements. Rescue personnel should be advised of such laws and agreements and of procurement practices and availability of manpower and equipment not consistent with usual fire department facilities. They should understand safety factors in minor demolition and should know with what authorities, outside of the fire department, conferences are necessary to successfully conclude safe major demolition.

Shoring

Shoring is the act of strengthening or supporting by props or shores. When buildings, bridges, dams, stadiums and other structures collapse while occupied, from such causes as weakness, fire, flood, earthquake, tornado, etc., victims may be pinned or trapped or buried in such a manner that they may not be removed or attended to without first shoring for

(*Continued on page 74*)

Apparatus Replacement Following Large Fire

The October, 1952, issue of FIRE ENGINEERING contained an account of the St. Vincent's Church fire in Madison, N. J. The article did not dwell upon the age or condition of the local fire apparatus that fought the fire but did mention Madison's deficiency in long ladders.

Since that fire, the problem of Madison's outmoded fire apparatus has come to a head. There appears to be an end to the two or more years' behind the scenes maneuvering, as a local paper puts it, and the Borough is about to adopt a comprehensive replacement program.

Councilman Alfred P. Smith has presented a plan to replace the 22-year old ladder truck immediately and the 25 and 31-year-old pumpers in the near future.

Most important immediate need is a mechanically powered ladder to replace the old city service truck with its worn wooden ladders. In the way of additional improvements, Madison is getting a new 500,000 gallon water storage tank and is adopting the National Board of Fire Underwriter's Building Code.

Demonstrations Feature Ohio Chiefs Conference

Out-of-door exhibitions, coupled with indoor lectures, provided the business and education features of the 35th Annual Conference of the Ohio Fire Chief's Association, held in East Liverpool, Ohio, September 25-6 and 7 last. In addition, the 500 and more visiting fire chiefs and their wives and guests enjoyed a full round of entertaining and social programs.

Speakers on the Conference agenda included Chief Frank McAuliffe, Chicago Insurance Patrol; Chief Charles R. Scott, Ohio State Fire Marshal, Columbus, Ohio; Chief Bernard Mulcahy, Cleveland Fire Prevention Bureau; and Dr. Frank L. Meany, Cleveland and Lakewood, Ohio.

Over 400 attended the cocktail hour and banquet on the 25th as guests of the Association. The speaker was State Representative Clarence R. Wetzel, of Lisbon, Ohio, whose subject was the High Cost of Government.

The afternoon of the 26th was devoted to the displays of manufacturers of fire apparatus and equipment, demonstrations being staged by the East Liverpool Fire Department under supervision of Battalion Chief Emmet Byrne Cleveland, and Chief Leroy Halstead of Youngstown, Ohio. The evening was given over to entertainment.

At the concluding business session on the 27th, Chief Walter Hydaker, Lima, Ohio, was elected president, to succeed Chief Robert Young of the Youngstown Sheet & Tube Fire Department; Assistant Chief Cornelius Donnelly, Lakewood, Ohio, was named first vice-president; Chief Wm. Cheesman of the State Fire Marshal's Office was elected secretary-treasurer and Chief Merle Gifford of Boardman, Ohio was named assistant secretary-treasurer. The Board of Trustees for the coming year will consist of Chief Charles Bryan, East Liverpool; Chief Robert Young, Youngstown; Chief Robert Fenwick, Mechanicstown; Chief Elmer Cline, Sylvania; and Battalion Chief Emmet Byrne, Cleveland.

Among the Resolutions adopted by the Association was one calling for a minimum of two oxygen-type masks on every fire truck in the state. It will be recommended to the State Legislature. The Association also will work with the State Inspection Bureau on a Resolution extending the three-mile limit on fire insurance to five miles.

Damage unofficially estimated at $100,000 destroyed the main barn and bottling plant of the Raymond Whitney Farm in Monroe, Conn., on December 9. One hundred fifty tons of baled hay were lost in the blaze.

Costly Farm Fire in Monroe, Conn.

Fire destroyed the main barn and milk bottling plant of the Raymond Whitney farm in Monroe, Conn., on December 9, causing damage estimated at $100,000. More than 100 head of cattle were led from the burning buildings, but two calves and a steer were destroyed in the fire.

Origin of the blaze, one of the most spectacular seen in Monroe in several years, is undetermined. The loss is partially covered by insurance. About 150 tons of baled hay in the main barn was a total loss.

Firefighters from the surrounding towns of Long Hill, Newtown, Stepney, Trumbull and Shelton joined Monroe firemen in battling the blaze. At one time there were 100 firefighters engaged in the operation. One fireman, a member of the Long Hill Fire Department, was injured during the height of the fire.

Operating one of the most modern farms in Southern Connecticut, the Whitney family was proud of the "milking parlor" which was destroyed. Remodeled and expanded a few years ago, the building contained automatic milking equipment and a huge hayloft in the main barn. The Whitneys raise purebred Jersey cattle and thoroughbred horses on the farm consisting of several hundred acres. The farm is located on the Monroe-Shelton road, one mile east of Monroe Center. TOM MAGNER.

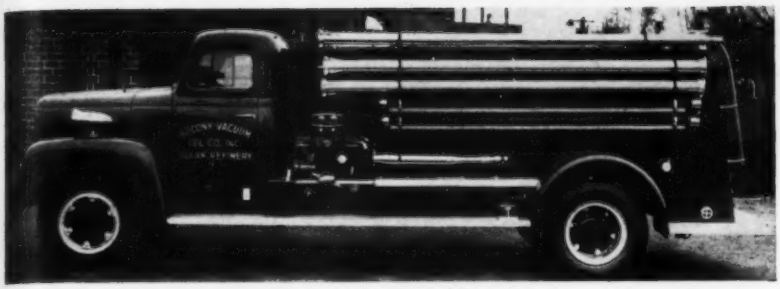
At Ohio Fire Chiefs Conference, a member of the East Liverpool Fire Department, using a fog nozzle with an applicator, extinguishes an oil fire in a 12-foot square pit. A second member stands ready to back him up with another fog stream if necessary.

Bradford Brigade Has Jubilee Celebration

The Bradford City (Britain) Fire Brigade celebrated its 50th anniversary of the opening of their Fire Brigade Headquarters in Bradford, on October 29th, last. The ceremony was timed to coincide with the annual inspection by P. P. Booth, O.B.E., one of Her Majesty's Inspectors of Fire Brigades.

At the conclusion of the inspection there was a march-past by approximately 100 full-time personnel, after which the Lord Mayor unveiled the nameplate of three new "appliances" which were given names of long-serving Fire Brigade Committee members.

A "smoking concert" was held during the evening in the Station Recreation Room, attended by whole-time personnel, retired members and Committee members and guests.



New foam truck for Olean oil refinery.

New Fire Truck Becomes Portable Foam-Maker

A new pumper truck designed for use as a portable foam generating plant for fighting petroleum fires, has been added to fire protection facilities by Socony-Vacuum Oil Company for service at its Olean, New York refinery, south of Buffalo, N. Y. The new fire truck incorporates latest improvements in pump design, and foam-making equipment for use with liquid foams.

The mechanical foam is generated when a specific amount of foam liquid is proportioned into water, and the resulting solution is passed through pipes or hose to a foam-maker. Air is introduced at the foam-maker, and the churning action of water, liquid foam and air, produces a heavy, tough foam for use in blanketing and extinguishing flammable liquid fires.

Designed and built by National Foam System, Inc., West Chester, Pa., the pumper, an International Model L-192, has a chassis with a 193" wheel base and dual rear wheels. Height of the truck from the ground to the top of the cab is approximately 92-3/16", width is 90", gross weight, completely loaded, is about 21,000 lbs., including a crew of five men.

The truck is equipped with a Hale two-stage centrifugal pump which operates directly from the driveshaft, and can discharge foam at the rate of 6000 gallons per minute at 150 psi. Dual controls permit motor throttling and discharge control of pump from either side of the truck at the running board control panel.

Foam-making equipment available on the vehicle ranges from foam nozzles to portable foam towers. The towers are 38' 6", when completely assembled, and designed for the protection of tanks up to 35' in height. Constructed of aluminum, they are light to carry, and simple to erect. The curved discharge tip, or "gooseneck", is stainless steel. One tower is of sufficient size for use on intermediate or small tanks. Both towers used together, should be able to protect the largest tank at the Olean Refinery.

Two National Aer-O-Foam spray stream nozzles are included in the foam-making equipment. Range of stream at 100 psi is reported to be 75 feet. Range of the spray pattern at 100 psi extends to a diameter of 14 feet. Each nozzle discharges 1100 to 1200 gallons of foam per minute at 100 psi.

Both pump proportioners and a pressure proportioner are available. There are two built-in pump proportioners. One of these proportions for a flow of 480 gpm of solution. They can be used individually or together. A 50-gallon pressure proportioner is mounted on the rear of the truck and can be filled from the main foam storage tank. It is intended for use on small tank fires where a large volume of foam will not be required.

The large main tank of the Olean Refinery pumper truck has a capacity of 500 gallons of liquid regular foam.

Other equipment on the pumper includes 1000 feet of 2½" hose, 500 feet of 1½" hose, portable spotlights, tools and miscellaneous aids.

An interesting innovation is a "trouble button" located near the left rear hand rail. If some emergency should develop at the rear of the truck, the button is pressed, and a red signal light flashes on the driver's instrument panel so that the truck can be halted.

Should a fire occur in the refinery, the new truck would be driven to the nearest available hydrant to the scene of the fire. If the fire is in a large storage tank equipped with foam chambers, hose would be run from the pump discharge to the outboard terminal connections of the pipe leading to the foam chambers. Pump proportioners would then be adjusted to the proper solution flow for the foam chambers, and foam would flood the surface of the blazing liquid. For fires in small tanks having foam chambers, hose is connected from the discharge on the pressure proportioner to the outboard terminal connections on the pipe lines running to the foam chambers. The valve on the pressure proportioner is then opened and proper proportioning occurs automatically.

If fire occurs in a tank that does not have foam chambers, then one or two foam towers would be used, depending upon the size of the tank, and connected by hose directly to the pump discharge. Ground fires involving flammable liquids would be approached in the same manner using the special foam nozzles.

Charlotte Has More Hydrant Headaches

In the October, 1952, issue of FIRE ENGINEERING correspondent D. G. Spencer of Charlotte, N. C., told about an awkward situation created when a fire hydrant stuck and a radio shop burned when water was not forthcoming.

Now comes another "hydrant headache" from the same correspondent, this one with a different twist which has to do with the destruction of the Troy Whitehead Machinery Works on Wilkenson Blvd., six miles out from downtown Charlotte, with loss of $150,000.

First to respond to the alarm for this fire were five units of the Wilkinson Blvd. Volunteer Fire Department. They were soon followed by units from Woodlawn and Pinoca, but the 250-foot warehouse was beyond saving and the firemen concentrated on preventing extension of the blaze.

During the height of the inferno, a "dry" hydrant (i.e: not being used by fire fighters) was the object of much curious speculation and comment from the crowd and from volunteer fire fighters. Investigation disclosed that this hydrant was "dry" because the water bill for it had gone unnoticed for over six months. Inability to use this hydrant increased the problem of extinguishing the blaze.

After the fire had been raging more than an hour, and after a unit from the Charlotte Fire Department had reached the scene on a call for help (the occurrence was outside the city line), the City Water Department was informed of the need for the "dead" hydrant. A truck and crew eventually arrived and put the hydrant "in service" and the latent source added its supply to the struggle which eventually won the battle.

Borough of Stroudsburg, Pa., proud of its fire force.

Here's the rolling stock of the Stroudsburg, Pa., Fire Department lined up before the attractive Municipal building. Stroudsburg (pop. 6,900) boasts one of the best equipped departments of the State. It includes Chemical #1 and Phoenix Engine Co. #2.

Outmoded equipment has been replaced over a period of 20 years as a result of a sound apparatus replacement program.

Shown, from left to right are 75 ft. Aerial (1932); 200 gal. booster truck (1948); 100 gal. booster truck (1936); steamer, vintage of 1871; pumper, 750 GPM (1923); 750 GPM pumper (now being made over into a hose wagon); 1,000 GPM pumper (1950). There is also on order a new 1,000 GPM pumper scheduled for next April delivery.

Progress in Ontario Hose Thread Standardization Program

Standardization of Ontario's hose threads on fire fighting equipment and hydrants is reported proceeding rapidly and was completed in the five counties surrounding Toronto by the third week in September. The work is being done under a joint Federal-Provincial hose thread standization program in which the Federal government is paying one-third of the cost and the Provincial Government two-thirds. It is a two-year program in which not only will the 2½-in. hose threads be standardized on all municipal departments throughout the Province, but also all fire-fighting equipment in industry will be changed over to this standard as well. This is all being done at no cost to the municipalities or industries except the labor in bringing together the equipment to be converted by the Provincial work teams.

Counties now completely standardized include York, Ontario, Peterborough, Peel and Dufferin. Except for the Towns of Lindsay and Bowmanville, the Counties of Bictoria and Durham are also completed, and the conversion teams are now in those towns. A third field team with its mobile workshop is now operating in the County of Halton.

The standardization program includes not only the conversion of all 2½-in. fire hose, the fittings on fire apparatus and the various types of fire-fighting equipment used by municipal fire departments, but also the conversion of the 2½-in. outlets on all municipal waterworks hydrant systems, and as well the standardization of the operating nuts on hydrants. Under the old system of each municipality going its own way in fire fighting, there was a staggering complexity of differences in these.

—Quarterly Bulletin Ontario Fire Marshal.

N. Y. Fire Patrol Utility Truck

What is said to be an innovation in salvage fire patrol vehicles is now in service with the New York Fire Patrol. It is known as the Fire Patrol Salvage Utility Truck and is designed to reduce the manual labor required in salvage operations after a fire.

The unit, which responds on special calls from the Fire Patrol officer on the fire scene, is the first of fourteen Patrol units to be equipped with the latest puncture-proof tire tubes.

The apparatus is a 2-ton Ford truck with radio receiver, over which fire calls may be clocked. A metal boom has been installed on the rear of the truck, with a chain gear block-and-fall to facilitate the raising and lowering of portable pumps used for de-watering cellars. There is also installed a towing hook, anchored to the rear chassis, for towing disabled apparatus.

The truck is equipped with a gasoline power generator of 1,500-watt capacity, which provides power to operate three aluminum chassis 300-watt portable lamps and also to power two 25-gallon portable electric pumps, which are used to drain water from bagged covers and to remove water from floors. These pumps are designed to facilitate complete removal of water from floors without need of sweeping it downstairs and into elevator shafts, thereby reducing water loss.

There are two 50-gallon-per-minute cellar pumps equipped with gasoline-driven motors and 200 feet of reinforced rubber hose for throw-off lines. These hose lengths are made up in 8-foot sections and are secured alongside the pumps on the upper structure of the apparatus.

In addition to this special equipment, the unit carries a complete set of forcible entry tools; overhauling equipment, such as shovels, pitchforks, wooden scoops, cellar drills and malls, extra brooms and squeegees. In addition, there is a complete sprinkler repair and replacement outfit with an ample supply of sprinkler heads of various degrees; also extra covers, sawdust for mopping up water, and the usual complement of Fire Patrol equipment.

The unit was placed in operation last November and has performed to the complete satisfaction of the personnel. The Chief of the New York Fire Patrol is Joseph J. Scanlon, formerly a Deputy Chief of the New York Fire Department. He was assisted in the development of this utility truck by Deputy Chief Henry M. Wright.

New York Fire Patrol utility truck has latest features. First of fourteen patrol vehicles to have puncture-proof inner tubes. Equipped for lighting, dewatering, towing, as well as all salvage operations. Note crane in rear of chassis.

Fire Department Donations May Be Tax Exempt

Previously, this journal has pointed out that donations made to volunteer fire departments for the sole purpose of purchasing new fire apparatus and equipment constitute allowable tax deductions, on a par with charitable gifts.

The question is raised again because of correspondence FIRE ENGINEERING has had with a manufacturer of first-aid equipment who sold a fire department a certain device for Civil Defense first-aid and rescue use and was surprised to find out that the fire chief to whom he sold it was unaware of the write-off provision for Civil Defense donations. This particular fire department was soliciting funds for a rescue unit and purchased the device out of the donations received.

For the benefit of its readers, FIRE ENGINEERING is pleased to quote from a letter received from the Special Technical Services Division of the U. S. Treasury Department on this point, written in answer to a request for a ruling on the question:

"Section 23 (o)(1) of the Internal Revenue Code provides that there shall be allowed as a deduction in computing the taxable net income of an individual, contributions or gifts made within the taxable year to the United States, any State, Territory or any political subdivision thereof, or the District of Columbia or any possession of the United States, for exclusively public purposes. Section 23 (q)(1) provides for similar deductions in the case of corporate donors.

"Accordingly, where a volunteer fire company is an instrumentality of a political subdivision, contributions made to it or for its use are deductable by the donors in the manner and to the extent provided by Section 23 (o)(1) and (q)(1) of the Code.

"In the case, however, of a volunteer fire company which is not an instrumentality of a political subdivision, it is suggested that such company establish exemption for Federal income tax purposes under Section 101 of the Code in order that a ruling relative to the deductability of contributions be made.

"Any request for such rulings should be submitted to the Director of Internal Revenue for the district in which the company is located together with an appropriate exemption application, copy of which may be obtained from the Director, and other information requested therein."

Bids Received for New York Fireboat

The low bid for the construction of a fireboat for New York City is $1,426,000 which is $139,000 higher than the engineer's estimate. The description of the proposed boat was published in November issue of Fire Engineering. The bid was submitted by John H. Mathis of Camden, N. J. The specifications contained a limitation of 100 miles from New York City. The only other bid was that of Bethlehem Steel Co. of Staten Island, New York—$1,790,000. The City Department of Purchase is debating whether to trim the specifications to fit the estimated appropriation or ask the Board of Estimate for an additional appropriation to meet the low bid.

JERRY DALY

916 Iowa Fire Departments

There are 916 organized fire departments in the State of Iowa. Of these, only 24 are fully paid departments; all the rest are on a volunteer basis.

One-third of Iowa's 99 counties have county fire organizations.

—Iowa State College Bulletin, Dec. '52

Presentation of badge to Chief J. H. Schroder of South Fort Mitchell Fire Department.

South Fort Mitchell Firemen Celebrate Silver Anniversary

The year 1952 marked the silver anniversary of the South Fort Mitchell, Ky., Fire Department and the event was celebrated by the presentation to Chief John H. Schroder, who heads the department, of a solid gold badge and a scroll signed by all members of the organization, in honor of his long service. He founded the department in 1927, with the aid of ten other public spirited citizens.

The original equipment was a peddler's wagon, bought for $5.00 and converted into a hose wagon. This was hooked to the auto of the first fireman to arrive at the station. Today the South Fort Mitchell Fire Department boasts of two pumpers, one a 500 GPM job and the other a 750 GPM unit. In addition, the department is the proud possessor of a quad, which was built entirely by the volunteers.

Illinois Chiefs Meet

Chief Howard Rindt, Danville, Ill., was elected president of the Illinois Fire Chiefs Association at the new organization's second annual conference, held Dec. 13-14 at the Leland Hotel, Springfield, Ill. Chief Rindt succeeds Rod A. Porter, Winnetka fire marshal. Chief F. E. Foor, Prospect Heights, is the new executive vice-president, replacing Chief Roland Behrend of Bloomington. Second vice-president is Chief R. M. Poffenberger, Polo, replacing Chief Carl Ladendorf of Glenview. Chief Oscar Johnson of Springfield succeeds himself as third vice-president. Chief Arthur Holtz, Bartlett, was elected secretary-treasurer, succeeding Alfred F. Zay, River Forest chief. Enthusiasm ran high as the result of the conference, which occupied two days, and which offered a program in which both volunteer and paid members were afforded a maximum opportunity to participate.

Principal speakers at the session were Dale K. Auck, fire prevention and safety division of the Federation of Mutual Insurance Companies, Chicago; Harold Eash, village manager, Brookfield, Ill.; Atty. R. B. Holmgren, Lake Bluff, Ill., association legal counsel; Chief Wayne Swanson, Rockford, Ill., a director of the Great Lakes Division of the I.A.F.C., and H. R. Elkin of the Illinois Fire Prevention Association, who presented the Illinois premiere of the N.B.F.U. "Magnolia Story" film.

The Illinois Fire Chiefs Association was organized in the fall of 1951 at Joliet, Ill., with the late Chief Howard "Moe" Redding, North Chicago, as first president, serving in the interim between the initial meeting and the first annual meeting which was held in Bloomington in December. A second meeting was held also in Bloomington last summer. It is planned to hold a spring and fall session each year. Bartlett, Ill., will be the site of the spring "picnic" meeting at a date to be announced, while Danville will play host to the association next fall.

The Illinois Fire Chiefs Association active membership is composed of chiefs of municipal and governmental installation fire departments. Associate memberships are authorized for industrial chiefs and others closely associated with the fire service.

ROD A. PORTER

Far Northern Ontario Gets Radio

"Headquarters to No. 5 pumper" was the message that officially announced the adoption of modern two-way radio by one of the most northern of the Dominion of Canada Fire Departments, that of Timmins, Ont., on Nov. 24, 1952.

Mayor H. W. Spooner thus inaugurated this newest of communications hook-ups of the Timmins Fire Department, with Fire Chief William (Bill) Stanley approving. Present also, were members of the City Council, the Chamber of Commerce and other dignitaries.

Fire Chief Stanley has fought for fire department radio for several years. To him it is a vital link in the chain that binds Timmins and neighboring mining communities of Porcupine and others in a tight, efficient mutual aid set-up.

According to Chief Stanley, the radio will provide better protection for residents of the town, permitting the transfer of fire units from one scene of emergency to another. Radio will also be used advantageously in the inspection of public and other buildings, by permitting fire units to remain in service while their crews are conducting the inspections.

Timmins, in the heart of Ontario's gold mining country, with its neighboring communities is a long way from substantial aid in time of emergency. Radio will henceforth serve to knit its fire forces with those of its neighbors, with subsequent benefit for all.

Telephoned False Alarms Greater in Paris

Out of 27,600 calls accepted by the Paris Fire Regiment, in 1951, there were 3,473 false alarms (2,611 in the city and 862 in the suburbs). Of these, 1,618 were malicious. Nearly 61 per cent of these false alarms were transmitted by telephone, and 36 per cent by street fire alarm boxes.

Masks Prove Worth in Rescue

Less than three minutes after the alarm was turned in to the Evansville, Ind., Fire Headquarters on Nov. 13 last a fire department emergency crew donned self-breathing masks and plunged into the hot, smoke-filled second-story bedroom of a house to bring out nearly-suffocated 14-months-old Sharon Miller, daughter of Mr. and Mrs. James Miller.

The rescue was made by Captain Tom Gilky, and two members of his crew, Art Jochim and Ray Abbott, and followed by a day the dramatic rescue in another fire in the same city of two young girls by a neighbor.

Timmins Fire Department inaugurates radio system.

Sterling's new fire station.

Sterling Dedicates New Station

Sunday, September 21, 1952, was a big day in the annals of Sterling, N. J. On that day, Passaic Township officials, residents and representatives of Fire District No. 2, and visiting firemen, dedicated the new $45,000 fire station of the Sterling Volunteer Fire Department. At the same time, a new piece of fire apparatus was received officially and placed on view.

Approximately 1700 guests streamed through the new fire house. Fire Commissioner Dr. J. Randolph Beard conducted his official inspection of the apparatus and new quarters, which are spacious enough to house six large fire trucks. The festivities were participated in by firemen from nearby companies including: Morristown, Basking Ridge, Millington, Liberty Corner, Mt. Bethel, Community of Warren Township, Berkeley Heights and Long Hill. There were fireworks, free rides on apparatus for the kids, and band music for everyone.

The Sterling Volunteer Fire Company No. 1 is headed by Chief Daniel P. Gerulli who joined the department in 1933 and was elected chief in 1938. In 1942 he entered the army, and upon his return again continued in that capacity.

Mutual Aid Pays Off in Sacramento

The people of Sacramento, Calif., received a dramatic demonstration of how organized mutual aid can function for their protection during a major fire emergency, on November 11, last. The terse account likewise may point the road to better mutual aid between other fire departments.

On November 11, many of Sacramento's paid firemen, together with volunteers from neighboring areas, were watching the Armistice Day parade in downtown Sacramento. A few firemen were parading with their veterans' organizations. Sacramento's Engines 1, 2, Ladder 4 were also in the line of march.

At 10:11 A.M., the Sacramento Fire Alarm Bureau received a telephone alarm reporting a bad fire in the Arata Brothers Market, 34th Street and Third Ave., in the Oak Park business district. Engines 6, 7, 9, Ladder 3, Ambulance 1 and a Battalion Chief responded. As the crew of Engine 6, one and one-half blocks away, left their station they could see that they were up against a stiff fight, and the captain radioed for additional aid.

Upon receipt of this call, the Fire Alarm Bureau dispatched a 2-11 assignment (second alarm) which included Engines 4, 3, Ladder 2, Assistant Chief. At this time the companies in the parade, each of which was radio-equipped and never actually out of service, headed for their home stations.

Shortly after, the Battalion Chief first due radioed a 3-11 alarm (third alarm) bringing Engine 8, Water Wagon 9, Ladder 4 and Fire Chief Terence Mulligan.

As it quickly became obvious that this fire would tax the Sacramento forces to the utmost, a call for mutual aid cover-in was sent out to the Higginwood Fire District, which is the mutual aid dispatch center. One heavy duty engine company from the City of North Sacramento together with apparatus and men from the Higginwood Fire District, Arden Fire District, Arcade Fire District, McClellan Air Force Base, South Sacramento Fire District, Fruitridge Fire District, Sutterville Fire District, and Florin Fire District moved into Sacramento's vacated fire stations. The American River Fire District, scheduled to cover-in, was busy at a fire and following the predetermined response card, the Del Paso Heights Fire District located in Sacramento in place of American River. Other Fire Districts in the outer area as well as Mather Air Force Base and Sacramento Signal Depot stood by to cover-in or answer any calls that might come in.

A special duty call was sounded for Engine 2, Hose Wagon 2, 5, Rescue Squad 1 to report to the market fire. This left only Engines 1, 5, Hose Wagon 1 and Ladder 1 of the Sacramento forces in service.

Fire Chief Cassaglia of North Sacramento set up mutual aid headquarters in the Sacramento Fire Alarm office, with Battalion Chief Veriera of the Sacramento Fire Department.

At noon an alarm was received from 1818 "N" Street, for a house fire. This location is just outside the downtown business district and it normally brought a response of three engine and one ladder companies. Responding the same as Sacramento companies would have done, using the regulation Sacramento running card, Engine 1 (North Sacramento); Engine 5 (Hagginwood); Engine 4 (Arcade) and Ladder 1, Sacramento, with Fire Chief Cassaglia, responded.

This fire proved threatening and involved a sleeping room in which a person was sleeping. The responding forces held the fire to the single room although an occupant received third degree burns.

The Arata Market fire followed the pattern of so many similar fires where the structure covered a wide area with no cutoffs, and large cock-loft which was soon fully involved. Firemen operated ladder pipes and hand lines to control the stubborn fire. Property loss was heavy.—EDWARD GARDINER.

Wants Better Fire Alarm School Protection

There are 13 public school buildings in Saugus, Mass., according to Gordon H. Jameson a public spirited citizen of the town, and only four of them are anywhere near a fire alarm box. One of the grammar school buildings is located more than a quarter of a mile from the nearest fire alarm box, he claims. And he wants something done about it.

His local fire chief being unsuccessful in his efforts to have fire alarm boxes installed in or adjacent to schools, Mr. Jameson has gone to the State Legislature for action. He has filed a Bill he wishes the Legislature to act upon the current year (1953). In his proposed Bill Mr. Jameson has incorporated some workable ideas he saw put into use at the New Haven Training School grounds last May.

In a nutshell, the proposed Bill would apply to "all cities, towns, and villages" within the Commonwealth having public, and private school buildings within their respective boundaries. It calls for installation on or before Sept. 1954, in front of each school (at sidewalk line) of a master type fire alarm box, connected with the local fire alarm system.

It further stipulates that cities, towns and villages shall on or before September, 1962, install within every public school building an electrical fire detecting device or devices, and it indicates where they shall be installed, under guidance of the local fire chief.

The Bill further indicates the results that must be derived from such installations, including sounding of interior and exterior alarms, lighting of an amber or other colored light above the main entrance of the school, to indicate where the fire has originated. An audible warning device shall be installed in connection with the master type boxes that will be heard at least one-half mile away upon sounding of an alarm.

There are other clauses in the Bill, which covers 8 paragraphs and 13 Sections, but the foregoing are the main considerations.

November Fire Losses

Estimated fire losses in the United States during November amounted to $65,129,000, it was reported here by the National Board of Fire Underwriters.

According to Lewis A. Vincent, NBFU's general manager, this $65,129,000 loss represents an increase of 8.4 per cent over losses of $60,064,000 reported for November 1951, and an increase of 1.8 per cent over losses of $63,958,000 for last October (1952).

Losses for the first 11 months of 1952 now total $710,826,000, an increase of 7.2 per cent over the first 11 months of 1951, when they amounted to $663,199,000.

These estimated insured losses include an allowance for uninsured and unreported losses.

in Eureka Multiple Woven Fire Hose

That's a fact! Mildew simply has no place to live or breathe in Eureka Multiple Woven Hose because there are no moisture pockets where water can accumulate. That also means there are no water pockets to freeze in cold weather. Instead of the jackets or plies being separate, as in loose-jacketed hose, the plies of Eureka Multiple Woven are circular-woven and bound together into one homogeneous unit. Eureka designed, developed and perfected this great hose advancement.

Eureka also has its famous Smooth-Interior Filler Ply—an individual set of warp and weft cords filling the valleys in the inner ply, making this surface perfectly smooth and level. This permits maximum pressure at the nozzle.

EUREKA

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street • New York 13, N. Y.

Division of United States Rubber Company

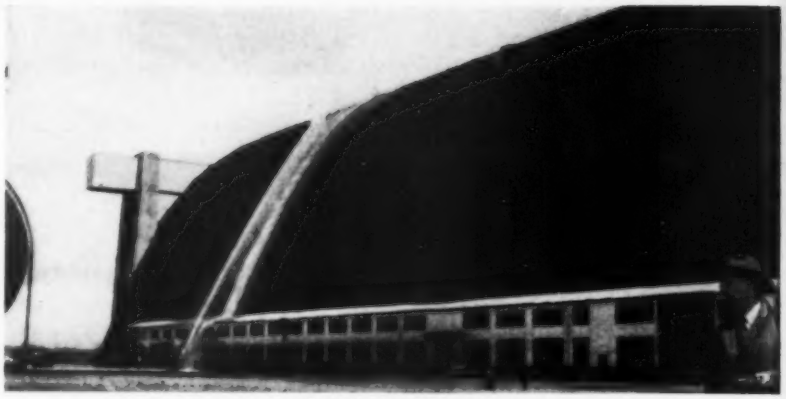
News of the Manufacturers

Truck Mounted Chargers Keep Batteries in Shape

The Pontiac Township (Mich.) Fire Department was faced with a troublesome problem. Due to the heavy electrical load on the trucks, which are equipped with 2-way radios, flasher lights and sirens, in addition to normal truck lighting and starting loads, the truck generators were not running long enough to maintain a fully charged battery. In fact, the battery in one truck once ran down so low that the truck had to be pushed to get it started, in order to answer a fire call. It was at this point that the Pontiac decided to take some positive action to remedy the situation.

Officials of the Fire Department discussed their problem with C. M. Ferguson, a Factory Representative of Sun Electric Corporation, large manufacturer of automatic electrical service equipment, and agreed to install a small Sun battery charger in each of the Department's five vehicles. One of these Sun chargers was mounted at the rear of each truck cab, and the battery charger leads were spliced to the battery cables. The 110-volt power lead was installed behind the trim panels of the truck cab, and run out through the center of the roof, with a male plug on the end. From the ceiling in the Fire Station, and directly over the cabs of the fire trucks, a female receptacle was suspended which connects to the male plug from the roof of the truck. Thus when a truck drives out of the fire station, it automatically disconnects itself. After each return, the plug is reconnected to the female receptacle from the ceiling. The chargers are controlled by a time clock on the Station's main control panel, and are operated two hours daily.

The installation of this equipment has eliminated battery troubles. In the words of a member of the Fire Department, "We feel that the installation of these chargers in our five fire trucks, including two time clocks, wiring and labor . . . has paid for itself because the delay in starting our trucks in an emergency has been eliminated. This gives our community a more positive, sure, and immediate response to its emergencies. For, being late to a call by only one minute may be too late to save one's life or property."



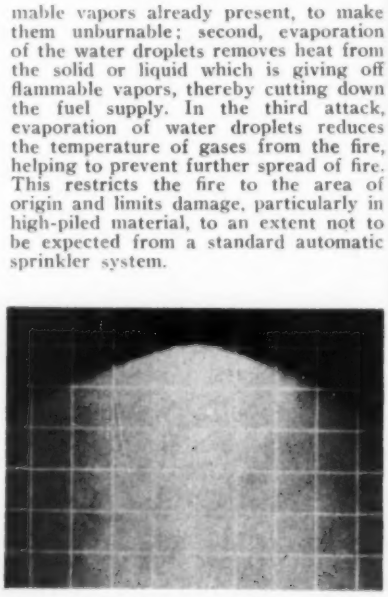
'Tops' in Fire Streams

Here's a fire stream topping a big blimp hangar, 200 ft. above the catwalk, supplied by one 750 GPM Maxim pumper, during a recent test. Eastman deluge gun, with 1½ to 2 in. tips, and with either three 150 ft. length of 2½ in. hose or four 150 ft. lengths of 2½ in. hose was used. Gallons of water delivered in tests ranged from 784 to 1,152 GPM at from 150 PSI to 175 lbs. pump pressure. Pumper was fed by a hydraulic system having a flowing pressure ranging from 22 to 35 lbs. per sq. in.

Grinnell Automatic ProtectoSpray

The Grinnell Company, of Providence, R. I., recently announced the availability of ProtectoSpray in automatic form. This device uses water in a spray form which experience has shown does a more effective extinguishing job with less water in a wide variety of applications.

Automatic ProtectoSpray brings to fire protection a coordinated three-way attack upon fire. The first two attacks are directed against the fuel supply necessary to maintain fire. First, water vapor from the spray droplets dilutes the flammable vapors already present, to make them unburnable; second, evaporation of the water droplets removes heat from the solid or liquid which is giving off flammable vapors, thereby cutting down the fuel supply. In the third attack, evaporation of water droplets reduces the temperature of gases from the fire, helping to prevent further spread of fire. This restricts the fire to the area of origin and limits damage, particularly in high-piled material, to an extent not to be expected from a standard automatic sprinkler system.



Demonstrating the cone of fine spray produced by the ProtectoSpray nozzle.

Automatic ProtectoSpray provides a wider margin of safety in fire risks subject to fluctuations in water pressure, for the discharge pattern of spray shows practically no decrease in area coverage when water pressures drop to half their design values. By providing coverage superior to that available from automatic sprinklers, automatic water spray protection is made available for many new special hazard applications. These include high-piled storage of tires or other materials; protection of wall and floor openings; extinguishment and control of fires in flammable liquids with flash points down to and including kerosene; exposure protection for storage tanks containing compressed gases and flammable liquids; control and, where effective, extinguishment of fires in equipment handling hazardous liquids and materials; control and extinguishment of fire in oil filled electrical equipment; oil, paint and varnish storage; and wherever

Pontiac Township fire truck showing ceiling connection for battery charger. Grill-work face of charger may be seen through cab window at left.

New North City pumper shortly before departure on 2,000-mile trip.

individual automatic response of a directional spray nozzle is needed upward, downward or at any angle between these two positions.

ProtectoSpray in the non-automatic or open type was originally developed in the Grinnell Fire Control Laboratories for applications where cooling alone was necessary. Limited water supplies and the necessity for uniform coverage of the hazard were two other factors to be met. In fulfilling these requirements a form of spray was developed which could be used to increase the effectiveness of protection for many other fire hazards. The only further adaptation needed was to make it individually automatic for use in unit-areas in contrast to deluge sprayed areas. This was accomplished by using the Quartzoil bulb release element which permits release of the spray at a choice of temperatures from 135° F to 500° F, as may be required. It is available with orifices of ½, ⅜ and ¼-inch and with well filled cone spray angles of 80, 95, 110, 125, 140 and 160 degrees.

Fire protection engineers have tested automatic ProtectoSpray in comparison with standard automatic sprinklers for the protection of piled tire storage. The tests were completely successful and show that the water requirements for piled tire storage protection were 30% less than for sprinklers. Protection of ceilings was shown to be superior to that provided by sprinklers even though automatic ProtectoSpray nozzles were not installed so as to discharge water toward the ceiling. Automatic ProtectoSpray demonstrated a very definite advantage over ordinary sprinklers for special hazard protection. As a conservative allowance, the water-saving capacity of all wide-angle spray nozzles was rated at 20% less water required than for automatic sprinklers, and since ProtectoSpray nozzles showed a 30% saving, their use provides an extra margin of safety in special hazard applications.

Three Vamps Make 2,000-Mile Trip to Deliver Pumper

Three members of the King County Fire Protection District No. 4 of North City, Wash., drove their new FWD 750-GPM triple combination pumper 2,000 miles over icy, snow-covered roads from the factory at Clintonville, Wis., to their home fire station at North City, Wash. To them it was a real "pleasure trip," the weather notwithstanding.

They were Ray Parker, fire commissioner and Firemen Stanley Garner and James Jorgensen. Their trip took them across the plains and over the Rockies.

According to Ray Parker, there are three Fire Houses in the District and the force responds annually to an average of 280 alarms. Fifty-one volunteers man the equipment. Because of lack of water mains, two pumpers usually answer all alarms. The District protects about 12½ square miles of residences and small business firms at Richland Beach, Richland Highlands and North City. The District has a population of about 21,000 and is one of 36 active fire districts in Kings County, and one of the 175 in the State.

Solar Gas-Turbine-Driven Pump Put Through Its Paces

A much-discussed portable gas turbine-driven fire pump which has a number of unique features has been undergoing trial runs at the U. S. Navy's Fire Fighting School at San Diego. Other demonstrations, to which fire officers have been invited, have raised widespread inquiry concerning the product.

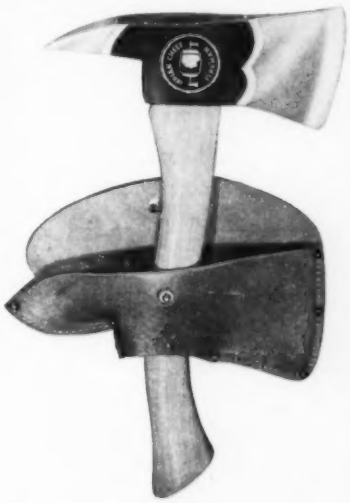
The unit is known as the Mars gas turbine-driven fire pump. It was originally sponsored by the U. S. Navy, Bureau of Ships. Other fire fighting agencies including the U. S. Forest Service Development Center at Arcadia, Calif., have sent representatives to witness performances of the unit, as have the Department of Lands and Forests and the Department of National Defense of the Canadian Government. The U. S. Air Force is reported interested in the application of the pump to fire trucks.

The illustration shows one of the gas turbine driven pumps extinguishing a fuel fire in a demonstration run at the Navy's San Diego Fire School. The unit can operate either using diesel oil or gasoline, and has a rated output of 500 gallons per minute at 100 pounds per square inch with the inlet suction up to 16 feet of lift. The total dry weight of the gas turbine driven pump is 165 pounds.

The pump is the product of Solar Aircraft Company, 2200 Pacific Highway, San Diego 12, Calif. Originally developed by Solar for the Navy to provide a light weight engine, which could be fueled with diesel oil, for fighting shipboard fires, it is now being manufactured for commercial use.

"Little Fireman" Axe

Mann Edge Tool Company of Lewistown, Pennsylvania, has recently introduced a handly little 1½ lb. pickhead fire



Mann fire axe.

axe. It comes complete with a sturdy belt sheath, and is designed to be carried by each individual fireman in a fire company. Firemen equipped with the "little fireman" axe find that this personal model adds to their safety. It is

Solar gas-turbine-driven fire pump in operation on test fire involving fuel oil.

Save Lives
IN YOUR COMMUNITY with OXYGEN

You Can Help:

If there is breathing difficulty — GIVE OXYGEN

USE

Scott DEMAND INHALATORS

to

1. Relieve effects of smoke or poisonous fumes
2. Reduce pain and aid victims of heart ailments
3. Relieve shock
4. Aid victims of swimming and auto accidents

At a Cost of ONLY

$169.50 PLUS CYLINDERS

• SCOTT Demand Inhalators are the safest, simplest, most economical units for administering oxygen — the demand flow of oxygen gives the patient all he desires, yet conserves the supply.

The life-saving benefits to your community far outweigh the modest cost of Scott Inhalators.

Type B — portable, including carrying case (with or without cylinders)

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ASK YOUR DISTRIBUTOR for a FREE DEMONSTRATION or write:

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MEDICAL DIVISION

SCOTT AVIATION CORP.

215 ERIE ST., LANCASTER, N. Y.

CANADA: SAFETY SUPPLY CO., TORONTO — BRANCHES IN ALL PRINCIPAL CITIES

EXPORT: SOUTHERN OXYGEN CO., 157 Chambers Street, New York 7, N. Y.

easily carried at all times during a fire and is ready for instant use in those seldom encountered but dangerous moments when the fireman becomes trapped.

Its usefulness is not limited to the fireman's personal safety, however, as the axe is large enough to do a real man-sized job in connection with breaking and entering buildings or in any "tight corner" where a full swing, with an axe of regulation size, is impossible. The "little fireman" axe is an addition to an already popular line of fire axes.

New Laboratory for Stop-Fire

Plans for a new chemical research laboratory for expanded study and development of chemical fire extinguishants, are announced by Stop-Fire, Inc., of Brooklyn, N. Y.

The laboratory will be located in an improved two-story building just purchased by Stop-Fire adjacent to the company's main plant at 125 Ashland Place, Brooklyn.

Reddan Now Fireye Sales Manager

Fireye Corporation, 77 Broadway, Cambridge 42, Mass., has announced the appointment of E. Douglas Reddan as General Sales Manager. Mr. Reddan was formerly associated with the Walter Kidde and Company, Inc., in key executive positions.

Brazil Foam Extinguisher Gets Approval

Fabrica "Contra" Limitada, of Sao Paulo, Brazil, only manufacturers of fire extinguishers of that nation, announce the approval of its 2½-gallon foam fire extinguisher by the Associacao Brasileira de Normas Tecnicas, which is the Brazilian counterpart of this country's Underwriters' Laboratories.

Correction

On Page 1029 of the December, 1952, issue of FIRE ENGINEERING, in the caption describing the new pumpers recently delivered to the New York Fire Department by the Ward LaFrance Truck Corp., the words "conterous pumps" erroneously appeared. The corrected caption should read: "These units are equipped with Waterous pumps."

New England Board Entertained by Connecticut Chiefs

The Connecticut Fire Chiefs' Association played host to the Board of Directors of the New England Association of Fire Chiefs, and their families and guests, at its Annual Christmas Party in the Indian Hill Country Club, Newington, Conn., on Dec. 9th.

This Holiday gathering has become a fixture with Connecticut fire chiefs. This year there were 192 in attendance, with every person receiving a gift.

The Committee in charge of the affair included Chiefs Thomas, Johnson, Dagon, Hall, Czine, Petrocelli, Shaw, and N. Brady. Others serving on the Committee were P. Monahan, G. Conklin, P. Glenn, J. Ashmeade, Capts. Ross Urquart, and Kirby (State Fire Coordinator), Arty Harris and Chief T. H. Donnelly, Chairman.

AVIATION CORPORATIO

274 ERIE ST., LANCASTER, NEW YO

Scott Air-Pak
(TRADE MARK)

"You can't come in unless you've got your Scott Air-Pak!"

Scott Air-Paks are ACCEPTED By FIRE DEPARTMENTS THROUGHOUT THE WORLD

Scott AIR-PAKS are reducing fire losses by permitting action at the fire's source —quickly, and without fear of unknown smoke or fume hazards. In seconds an AIR-PAK is on the wearer "ready to go," with a supply of cool, confidence-inspiring air (not oxygen) instantly available.

Scott AIR-PAKS can be put in operation in temperatures as low as 20° below zero. They can't be "outbreathed"—provide an ample supply of air regardless of age or physical condition of wearer. Fine for training purposes; easy to use and learn how to use—Air provides inexpensive training. Standard in thousands of fire departments.

MODEL 6000-A2M
Weight as worn 29½ lbs.
Air cylinder (#6350-A2M) contains 40.3 cu. ft. of air at 1980 lbs. p.s.i.
DURATION: 30 minutes minimum at extreme exertion.

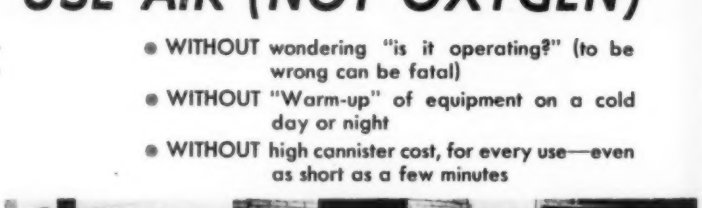
OVER 18,000 AIR-PAKS ARE IN EVERYDAY USE!

MODEL 6000-B4A
Weight as worn 19½ lbs.
Air cylinder (6350-A4) contains 22 cu. ft of air at 1800 lbs. p.s.i.
DURATION: 15 minutes minimum at extreme exertion.

Scott Air-Paks USE AIR (NOT OXYGEN)

- WITHOUT the hazard created by the use of oxygen breathing equipment in the presence of petroleum vapors
- WITHOUT waiting for chemical reaction
- WITHOUT wondering "is it operating?" (to be wrong can be fatal)
- WITHOUT "Warm-up" of equipment on a cold day or night
- WITHOUT high cannister cost, for every use—even as short as a few minutes

Your AIR-PAKS can be refilled in your department QUICKLY & ECONOMICALLY



Providence, R. I. Utica, N. Y. Chillicothe, O.

You'll Save MORE Lives . . . with Scott DEMAND INHALATORS as Standard Equipment

Easy, Low Cost OXYGEN TREATMENT

- Rescue squads using SCOTT DEMAND INHALATORS for emergency oxygen treatment of victims suffering from smoke, fumes and other accidents find them QUICK and EFFICIENT. When seconds are precious, you can rely on SCOTT. Oxygen is supplied victims by the "demand" principle, with constant flow at the touch of a button. This simple, economical unit can be put into action **fast** without special training.

Ask for a FREE demonstration **today.**

ESTABLISHED IN 1932 — Scott — FOR SAFETY—FOR SERVICE

SCOTT AVIATION CORP., LANCASTER, N. Y.

Short Cuts and Gadgets

WHERE'S G H Q?

The larger the fire fighting or other disaster operation, the more important it is that there be established some sort of GHQ to which reports can be sent, and from which orders can be received.

One of the difficulties of large-scale operations is for incoming companies and units to find the C-in-C. This situation is complicated by the difficulties some chief officers have in staying put." The "traveling C-in-C" should at least leave behind him some sort of base GHQ, staffed with an aide or aides.

A number of fire departments set up a GHQ on the fire ground immediately on all multiple alarms, or wherever for any reason such GHQ appears advisable.

They have different methods of marking or indicating this post. The most generally used method is a flag by day, and a colored light by night. Both have certain advantages, and disadvantages.

One reader of this page suggests that departments carry a collapsible stanchion or mast, with flashing light on top—blue or some other color, so long as it signifies "GHQ," much like the flashers used in the streets by public utilities.

One problem is to properly power this signal but it can easily be done with a portable light plant which, at the same time, can furnish the illumination for the GHQ (it is no sense having a Headquarters and "keeping it dark").

As an added indicator, or signal, the beam of a 500 watt spotlight directed vertically can be made to designate a GHQ.

Here's a chance for our readers to use their ingenuity. Let's have those short-cuts—and gadgets!

* * *

CONVENIENT NOTICE FORM

We filched this one from the Iowa State College Bulletin of November, 1952, as something worth passing along to our readers.

Volunteer fire companies and departments, particularly (although the paid forces do also have need for meeting and other notices) have continual call for some form of notice to remind their personnel of meetings, drills and special occasions. The increasing cost of printing, mailing and postage has made the notification of such personnel a very real problem.

The accompanying notice card, which is used by the up-and-hustling Story County Firemen's Association (Story County, Iowa) has proved one answer to that problem. The form can be used on a 2-cent card and it reduces the work of the secretary to a minimum.

Thanks to the Story County lads, and to Iowa State College!

* * *

MIAMI'S RADIO CODE SET TO JINGLES

In the past we've mentioned the time and money saving "turnaround" plan inaugurated by the Miami Fire Department, Fire Chief Henry Chase. By means of radio, with which every Miami fire department vehicle is equipped, the dispatcher at fire alarm headquarters is able to direct the response of assigned companies so that those not required are turned around before reaching the scene of the alarm. His action is based upon the radio report of the first arriving officer at the scene.

To facilitate this method, a simple code was originated and all firemen required to memorize it. The code idea is similar to that employed by police radio cars to indicate a theft, or fight, to forewarn the responding officers.

In order to simplify the code and make it easier to memorize, this jingle was devised:

Code One—"having fun" (For reporting a working fire)

Code Two—"Not much to do." (First Company only works)

Code Three—"No can see" (False alarm)

Code Four—"Nothing More" (Fire under control)

* * *

INDIRECT FOG APPLICATION

Chief Bob Gustafson, of Wapello, Iowa, saw the indirect application of water fog pictures shown at the Iowa State Fire School in May, 1952. Later, when the Wapello Fire Department had a call to extinguish a fire in a big tree, Chief Gustafson remembered something he had seen.

The tree was hollow with a large hole at the bottom. The fire involved the inside. The fire fighters at first couldn't figure out a way to handle the fire until Chief Bob bethought himself of the "indirect application method" he'd observed at the Fire School.

Fog was therefore used, at the bottom. It turned to steam and the fire was extinguished all the way to the top of the tree.

Iowa State College Bulletin

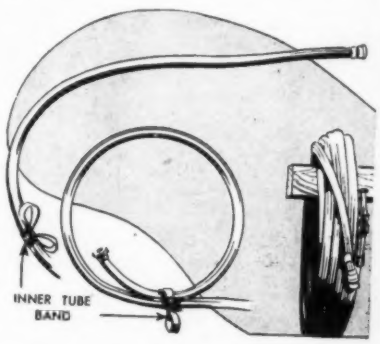
* * *

RUBBER BAND HELPS HOLD THAT COIL OF "JIFFY HOSE"

Many fire companies carry a roll of coiled garden hose for use in overhauling and extinguishing small fires.

Usual custom has been to tie the coil with one or more short pieces of twine or cord, which takes time and trouble.

The following idea, "lifted" from *Popular Mechanics* of October, 1951, might possibly be applied to this particular operation. Quoting from this magazine:



"You can overcome the difficulty of rolling a graden hose into a neat coil by simply taping a wide rubber band, cut from an inner tube, to the hose, about 6 ft. from the end that attaches to the sill cock (female end). The band is taped to form two loops, which project from each side. In use, one turn of the coil is formed and the connection end of the hose inserted through one of the loops, after which the hose is completely coiled and the nozzle end (male end) inserted in the other loop."

* * *

The Old Timer Says—

If there's any place where preparedness should be a cardinal requisite, it's in the fire service. It just doesn't seem possible that these things can happen, but here's what the Fire Marshal's Office, Pierre, S. Dak., said:

A rural truck ran out of gas en route to a fire and the crew of still another found their water supply over half gone when they arrived at a fire, due to the failure to refill the tank from a previous fire.

Still another department arrived at a fire and the firemen had not been instructed in the operation of the unit and could not get water into the pump or lines until a by-stander took over the operation—*too late to save the building.*

And lest I be accused of picking unfairly on the volunteers let me add that some terrible bulls and blunders have been committed by even the paid, professional Brothers.

Story County Firemen's Association

There will be a meeting of the Association as indicated by the check marks (X) below at ..... Nevada ....., **Iowa at** 8:00 .....**P. M. Please attend.**

..... Leroy L. Higgins **Secretary**

Regular..... **Special**..... **Important Business**.....

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

FALSE ALARMS

In the early days of motoring, narrow highways would barely permit two cars to pass without colliding. Now we're getting super-highways where six or seven cars can collide at one time.

With a reckless driver at the wheel, any car is likely to last a lifetime.

Frenchman: "I'll drink to the day I win the woman I love."
American: "I'll drink to the day I make a million."
Irishman: "G'wan with yez, I'll drink to the day I die."

An old man heard about some pills that would restore his youth. He bought a box, but instead of taking one every day, he swallowed the whole boxful one night before going to bed.

Next morning the family had great difficulty in waking the old man. At last he rolled over and rubbed his eyes.

"All right, all right," he grumbled. "I'll get up, but I won't go to school."

While the man was busily engaged in entertaining his neighbor's wife, the telephone rang. The neighbor's wife answered it and this conversation followed: "Hello. Oh, yes. O.K., Honey, see you later."

"Who was that?" asked her boy friend.

"Oh, just my husband calling to tell me he was playing poker with you and wouldn't be home until late."

The measure of a man's real character is what he would do if he knew he would never be found out.

An insurance salesman was trying, without much success, to sell some policies in one of our southern states. One day he was confronted by the local constable, who said,

"Man, don't you know you can't sell insurance here without a license?"

A look of great understanding crossed the insurance man's face as he replied, "I knew I couldn't sell here, but I never knew why until just now."

One of the worst tragedies that can befall a man is to have ulcers and still not be a success.

Or, "I didn't marry her just because her uncle left her a million bucks. I'd have married her no matter who left her a million bucks."

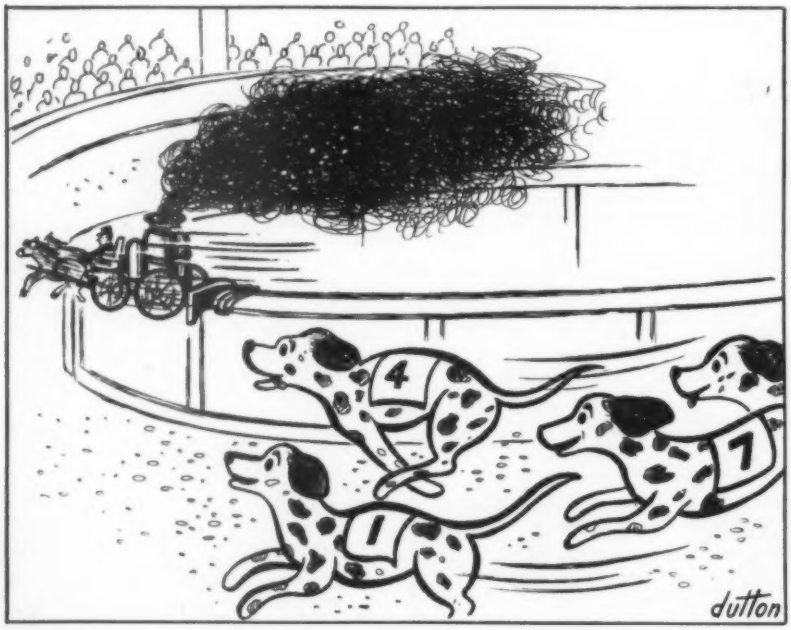
A man returned to his office one Monday morning showing signs of a very strenuous weekend. One of his friends, noticing his misery, strolled over and said, "How did you spend the weekend?"

"Fishing through the ice," moaned the miserable one.

"Fishing through the ice!" replied the friend.

"What were you fishing for?"

"Cherries," was the sad reply.



It was springtime in England, and the Brooklynite visiting a London park was overwhelmed by the number of sparrows milling about the lawns. He tapped lightly on the shoulder of the Englishman standing next to him.

"Hey, Mac, didja ever see so many boids!"

"My good man," said the Englishman, with a reproachful look, "Those are not 'Boids,' they're BIRDS."

The Brooklynite scratched his head thoughtfully. "Dat's funny,' he mumbled, "dey choips just like boids."

Frequently people give the bus drivers a pretty rough time, in their refusal to move to the rear of the vehicle.

However, one member of the fraternity has found a satisfactory solution.

As the bus becomes crowded, at each scheduled stop, this poker-faced motorman chants in a nasal monotone: "Ladies and gentlemen, move to the rear." Then he adds significantly. "The rest of you stay up front with me."

A salesman for a fire apparatus firm had his car to break down in a rural mountain section of Tennessee. He was forced to spend the night in a rather crude and primitive cabin. The following morning as he tried to freshen up with a bucket of cold water from a nearby stream, he had as his audience the group of children whose parents had given him shelter.

He shaved, patted lotion on his face, dusted on a little powder. Then he brushed his teeth, cleaned his nails, shined his shoes and whisked the dust off his clothes. The children watched wide-eyed. Finally, the eldest exclaimed: "Consarnit, Mister, hit looks as if'n you'n s ain't a gosh-durned whole heap of trouble to yo-self!"

The matrimonial fortunes of the city fireman and his wife almost came to grief because of the presence in their home of old Uncle Willie. For many years he lived with them as the star boarder, always grouchy and complaining, always first to the table at mealtime.

Finally, old Uncle Willie took to his deathbed. Returning from the cemetery, the city fireman confessed to his wife, "Honeybunch, if I didn't love you so much I don't think I could have stood having your Uncle Willie around all that time."

His wife looked at him strangely. "My Uncle Willie?" she cried, "I always thought he was your uncle!"

somewhere in the building,
lurking like a cat....
fire is ready to pounce.
In flammable liquids,
electrical equipment, record
vaults. The surest protection
is a Kidde Fully Automatic
CO_2 Fire Extinguishing System.

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...quick as a mouse, check the "Yellow Pages" for your KIDDE dealer

Walter Kidde & Company, Inc.,
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OVER 200
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When will your city be on this list? . . . when will your city be protected BEST . . . by Federal? Write NOW for airraid bulletin.

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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

OUT OF TOWN AID

THE discussion in this Round Table is a continuation of that which appeared in the November and December issues on providing fire protection to surrounding communities.

The generous response from our readers makes it necessary to carry the discussion over to this issue and next month's issue as well.

Readers are invited to send in their comments on this subject which is described in the box herewith. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

Clarence C. Baal, Jr., Chief, Sherrill Fire Department, Durango, Ia.: Our fire truck and its equipment is owned and the department financially supported by The Sherrill Fire Protection Association, Inc. We are a fairly new department having just completed our hrst year of operation. Our truck is housed in the town of Sherrill (pop. 160) which is located eight miles from the nearest city department and approximately fifteen miles from the nearest rural department.

About a year ago a few of us decided to do something about fire protection for this area. The above mentioned city department does not answer rural calls except under special contract and the rural departments were at too great a distance to be effective in this area.

We got a very good buy on a used 1941 Howe pumper and its equipment. An association was formed by area farmers and money for the truck raised by each member taking a $25 membership and agreeing to pay dues of $5 per year for upkeep.

The town of Sherrill is covered also under special contract. As part of the agreement the town council has rented half of my attached garage to house the truck. They have also provided heating facilities and turned over to the department equipment consisting of 1½" hose, several extinguishers and a portable pump. The town council has agreed to construct a fire station in the not too distant future and a public water supply with hydrants is expected to be a reality by next fall.

I have turned a room in my home into a fire department office in which is kept a large map of the surrounding area. Each of our 134 rural subscribers is marked on this map by a large red dot. This map is used for study by the firemen at our regular bi-monthly drills. A 2½-HP alarm siren has been installed on the roof of the fire station to alert the firemen when calls come in.

We have rural subscribers located in four townships with one township being almost completely covered. Our longest run at present is approximately nine miles. We will accept memberships from persons living within ten miles of the town limits.

Calls to members are made without charge and in the past calls to non-members were also answered but a charge of $150 was made. At the recent annual meeting of the corporation it was decided by a majority of the members present that in the future calls to non-members would not be answered. This decision came about because of difficulty in collecting for previous non-member calls and the fact that the property of members was left unprotected while the truck was being used on such a call. This ruling went into effect January 1, 1953.

We cover farms that have large cisterns and reservoirs holding as much as 10,000 gallons or more. We also cover a large dance hall that also has contract protection from the city of Dubuque. At this installation there are two 15,000-gallon fire cisterns.

HERE IS THE TOPIC

1. **Does your fire department provide fire protection to surrounding farm areas?**
2. **If so, do you make a charge for this service? What are your rates?**
3. **If no charge is made, do the farm districts compensate the fire department in any other way?**
4. **If no charge is made, and the fire department is not otherwise compensated, in what way does your city benefit from this free service?**
5. **Where rural service is provided, do the farms provide a ready supply of water; or do you depend upon water carried on the apparatus?**
6. **Is your fire department paid or volunteer?**
7. **Has your system worked out satisfactorily?**

Most farms have at least one fair sized cistern although we do have members whose water supply consists only of a drilled well. Here we must rely solely on our 300-gallon booster supply and wetting agent, or as in the case of a recent woods fire, water must be hauled in stock tanks or milk cans.

We have encouraged farmers to keep their water supplies accessible to the fire truck by providing necessary gates and a level place for the truck to park while drafting. We use our portable pump to get at otherwise inaccessible supplies and also for two 1½" lines to back up our booster hose.

Our department is entirely volunteer with 10 firemen at present. Each man has a complete set of fire clothing. We have mounted on our truck a 1,500-watt, 110-volt AC light plant with two 500-watt flood lights each having 100 feet of heavy cord. This lighting system is the only one on a rural truck in the county. We also have the latest in fog nozzles and two self-contained smoke masks are on order.

Our system seems to be working out fine so far although we would like to improve it by making a water survey of our rural subscribers. A small map of each farm showing water supplies and directions for reaching the scene would be placed on the cards kept in a file box on the truck for reference while on the road answering an alarm. After the construction of the proposed fire station we would like to purchase a small panel truck to carry small equipment and our portable pump and a couple hundred feet of 1½" hose. On long runs this truck could reach the scene ahead of the regular fire truck and put two lines in operation if needed. This last idea was copied from the Epworth Fire Department which is one of the nine volunteer rural departments operating association-owned trucks in this county.

Roman C. Brust, Chief, New Ulm, Minn.: We do not make a charge for providing fire protection to outlying communities. If the insurance company gives us something, it's all right.

We carry eighty gallons of water on our truck. The rest must be supplied by the farmers.

Our department is volunteer.

James R. Cowsert, Chief, Sarasota, Fla.: We have made a minimum charge of $25.00 for answering fire calls to outlying areas. However, we plan to put a new schedule of rates into effect January 1, 1953. This provides for a readiness to serve charge of two mills on assessed valuation of property with a minimum of $10.00 and $40.00 an hour for apparatus used. A bond or insurance policy must guarantee costs of runs.

We have some wells in these areas, but have to rely mostly on water carried on the apparatus.

We have a paid department.

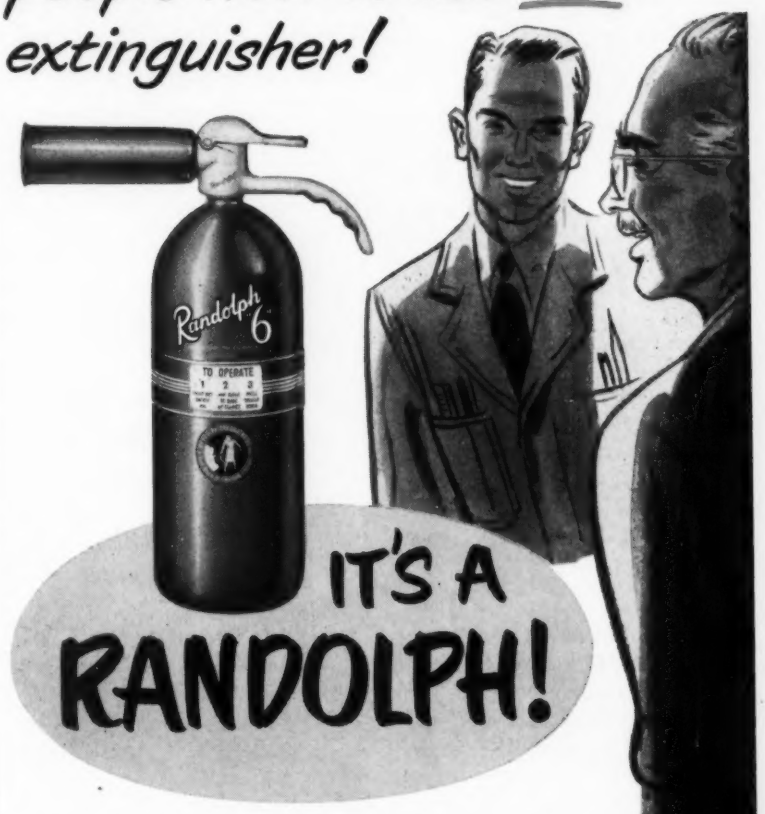
Donald J. Guest, Chief, Fredonia, N. Y.: We make a charge of $25.00 annually for providing outside fire protection.

We have a 500-gallon booster tank on our truck and also have some ponds in this area.

We are a volunteer department.

George E. Gebelein, Chief, Blackwell, Okla.: We do not charge for providing fire protection to outlying areas. Some of our farmers have made a donation to our department, but the

We don't have to 'teach' our people how to use this extinguisher!



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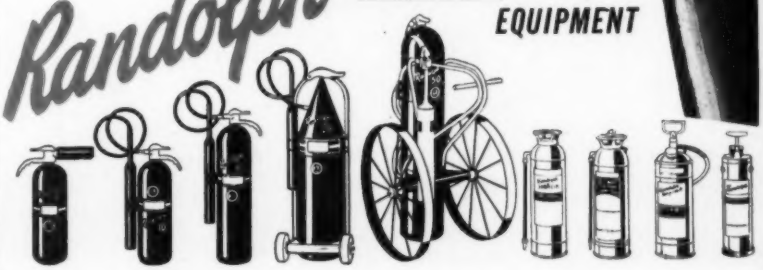

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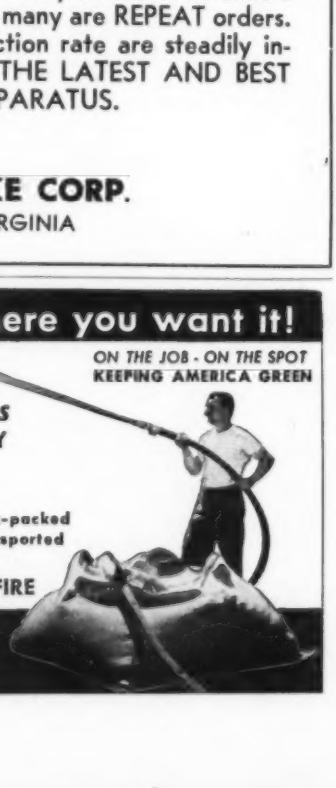
A WATER SUPPLY AT THE SCENE OF THE FIRE



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amount is left up to the person having the fire.

Sometimes we do not receive anything for our services, but we feel the service helps our trade area.

Some farms have ponds and some do not. Due to the extended drought we have had since June, ponds and rivers are low as are the cisterns and wells. We have had very good assistance from the farmers where they have brought water in 10-gallon milk cans and helped us keep our 150-gallon booster tank filled. We use the Hardie fog gun on our booster line hose.

We have both paid and call firemen in our department.

We feel our system has worked out satisfactorily. I have taken one man and two pump cans along with the chief's car to help out a field or pasture fire that is many miles from the city.

We have responded to twelve alarms for wheat field fires where in the process of combining, the pickup truck muffler and tail pipe would become clogged with wheat straw and catch on fire. Some losses to wheat were larger than others. We had another fire where a large truck loaded with wheat was involved right in the middle of the field. The truck was destroyed, but we managed to save the rest of the field. We have also done some good in saving a grain elevator where an electric motor had shorted.

C. Hielley, Chief, North Battleford, Sask.: We formerly provided fire protection for outlying communities, but discontinued this owing to lack of water. We charged $25.00 flat rate for truck plus $1.50 per hour per man.

The truck used was not in fit condition to answer rural calls. The council refused to let new truck be taken out of city limits as it would leave city unprotected.

We are a volunteer department.

Charles Quillen, Chief, Union City, Tenn.: We charge $100.00 for providing fire protection to surrounding areas. The insurance companies make a small charge on the policy if they care for fire department service.

We have a system here where five towns join up in case of an emergency and help each other. These five towns have fourteen pieces of equipment.

Some farms have ponds or some water supplies and we have a pumper with a 500-gallon tank.

We are a volunteer department.

Irby Gascon, Chief, Plaquemine, La.: We make a charge of $50.00 per hour from the time the truck leaves the station until it returns. This is paid by the parish.

Some farms have water while others depend on apparatus. Where there are bayous and drainage canals we use portable pumps and relay to pumper.

We are part paid and part volunteer.

J. C. Cooley, Chief, Alpine, Tex.: We make calls within a 25-mile radius of Alpine and do not charge for our service. We usually get a larger donation to our department than the amount we would have charged. These farm districts help purchase and maintain equipment which we use in town also. We do charge for pumping jobs that benefit the person we are pumping for and which have no connection with fire.

In general, the farms provide a supply of water. We also carry water on the apparatus.

We are a volunteer department.

W. K. Umberger, Chief, Princeton, W. Va.: We make a charge of $10.00 an hour within a two-mile radius and $10.00 an hour after the first hour.

We must depend on water carried on the truck. Some farms do have water available.

We are not satisfactorily equipped for out of town work due to the insufficient water carried on trucks.

We are a paid department.

Sam D. Beam, Chief, Newberry, S. C.: We charge $25.00 for the call or $50.00 if we use the apparatus—a maximum of $50.00.

We depend upon the water that we carry, although some of the farms do have reservoirs at their places. If they do, we can make good use of them.

We have four paid full-time men and the rest are volunteers.

The system seems to work very satisfactorily under three miles from the city limits.

Fred E. Taylor, Chief, Grinnell, Ia.: We do provide fire protection to outlying areas. A rural fire truck is owned by the farmer members of the Rural Fire Association. Each member pays $5.00 a year. The city fire department does not charge for this service, but we have the use of the farm fire truck any time the city needs it.

Some farms provide a ready supply of water, but we depend on the water carried on the truck.

We have two paid men and sixteen volunteers.

Our system has worked out well.

Arthur H. Whitenight, Chief, Marcellus, Mich.: We provide fire protection to three full townships and one-half of two other townships. The village has a contract with each of the townships to provide fire protection. The village maintains two 500-G.P.M. pumpers, one tank truck (600 gal.) with portable pump, and one ambulance. We are a volunteer department, with 20 members.

The contract states that for $500 per year for each township ($250 for half-townships), the village will respond to all calls with one pumper (400-gal. booster) and one tank wagon, manned by eight men.

We find that this system works very satisfactorily. The money from the townships, paid even though they do not have a fire, helps the village to maintain better equipment, and is much cheaper for the townships than if they were to maintain their own equipment.

There are thirty-six lakes within six miles of Marcellus, along with several streams, so that we never need to go too far to replenish the supply of water in the tank truck. The farmers in this area have cooperated very well in hauling water to fires and many have built storage tanks on their farms.

We have a satisfactory mutual aid program worked out with surrounding towns. There is no charge made if one department is called by another.

Zane Hudson, Chief, Sheldon Volunteer Fire Department, Sheldon, Ia.: I believe that O'Brien County, Ia., has one of the finest systems of rural fire protection in the United States.

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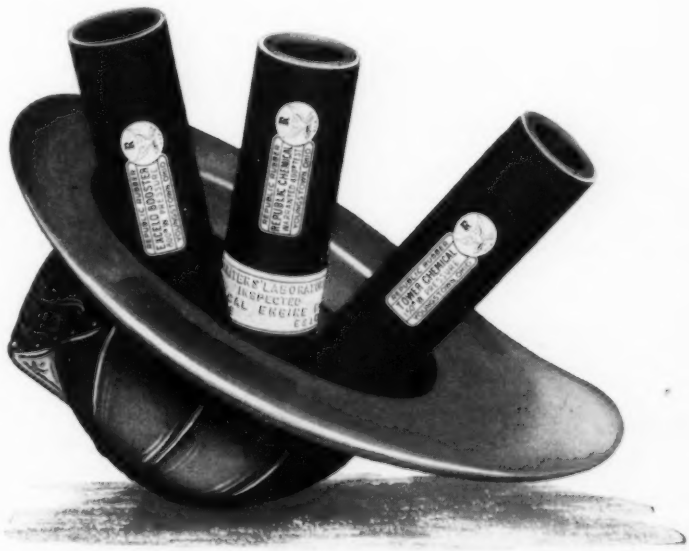

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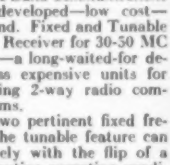
Built-in sensitive squelch with level control. Dual conversion, 10.7 MC and 455 KC. Fully tuned RF stage. Fourteen tubes plus rectifier. Sensitivity for 20 DB quieting, one microvolt low band, two microvolts high band. Selectivity 3 DB at plus or minus 20 KC, 80 DB at plus or minus 30 KC. Crystal selector control with provision for two crystals fixed frequency operation (one for each band).



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sociation of O'Brien County owns ten fire trucks and one is placed in each city and town in the county, plus one in a town in an adjacent county to protect the southwest part of the county.

Each truck is equipped with a 200-gallon rotary pump and carries a 350-gallon tank of water. Each carries 150 feet of booster hose plus an ample supply of 1½-inch hose. Besides this most of the trucks carry foam equipment, wet water, carbon dioxide and all types of nozzles.

In two of the towns in the county we have two tanks of 500 gallons capacity which are ready to go on a moment's notice, and along with this are several other tank trucks belonging to individuals which will haul water if the occasion demands.

There is no rural home beyond five miles of fire truck protection.

If the first truck at the scene of the fire finds that he is going to have trouble in handling it, the chief has the privilege of calling in any or all of the trucks to assist him.

These trucks are also available to assist at any neighboring town or city fire and no charge is made.

The trucks are also used at all fires within the towns where they are housed at no charge.

In the rural districts, fire truck service is free to policy holders and to non-policy holders the fee is $25.00 plus the cost of the firemen who accompany the truck.

The advantage of having the rotary pump is that in case of a grass or corn field fire, the truck travels to the fire and at the same time pours water from the booster hose.

The cities and towns furnish the housing and gasoline for the trucks, plus the manpower and the insurance company furnishes the truck, equipment and upkeep and pays the firemen for all rural calls.

Sometimes the building which is afire is beyond saving, but our main purpose is to protect adjacent buildings. The secretary of the insurance company told me that the adjacent buildings that we saved during the first year of operation more than paid for the trucks.

We have a county organization that meets four times a year to talk over fire fighting problems and then we have a social hour and the mutual always pays for a substantial lunch. Besides this they have been giving us an annual dinner up at Lake Okoboji.

During Fire Prevention Week we call on every town in the county with a caravan, stage a fire practice at all of the schools, give a talk over a loud speaker and distribute fire prevention literature.

The Mutual carries ninety-five per cent of the rural policies in O'Brien County and has many policy holders in the four adjacent counties. As a result we have no boundary lines and are free to go when and wherever we are called.

All firemen answering the calls are fully protected by insurance, going to or from the fire, whether they are on the truck or riding in their own cars.

All firemen in the county are volunteers and we are certainly pleased with the setup the Farmers Mutual has lined up for us. Thanks to them, I believe that we have a wonderful rural fire protection system in our county.

besides having access to all their equipment to fight community fires.

W. H. Knight, Member, Osceola Fire Board, Osceola, Mo.: We charge $60.00 per hour for calls beyond the city limits, with a minimum charge of $15.00 for any call. Resuscitator service anywhere is free as this is sponsored by the local Rotary Club and operated by the fire department.

Farms for the most part do not have adequate water supplies, and the 500-gallon booster tank on the truck is quite often supplied by trucks with milk cans.

Our fire department is entirely volunteer and has 35 members, with a five-man fire board instead of a fire chief.

This organization was set up about six years ago, when this town of 1,000 was without any recognizable fire protection. The city council passed an ordinance creating the fire board, made up of business men interested in fire protection. The ordinance read that the fire board was to have complete control of the fire department. The fire board agreed that no one wanted the responsibility of being chief, so the burden is shared. Seven members take two weeks each checking the station and equipment every day. Training meetings are held on the first and third Tuesdays of each month.

We have a 500-gallon pumper with a 200-gallon booster tank, also a 1933 truck with two 30-gallon chemical tanks, hose bed and ladders. This 1933 truck meets the requirements of the Missouri Inspection Bureau for the rate now placed on the town. We are therefore at liberty to take the pumper out of town. The Missouri law does not give us any authority outside the city limits and such trips are at our own risk. We have gone as far as 30 miles and pumped for three hours. We recently had a grass and timber fire on which we worked more than nine hours with 150 volunteers. We have had some remarkable results in nearby small towns that did not have fire equipment and at farm homes.

We are handicapped by lack of funds and would like to have more and better equipment. The people we have served have been most cheerful about paying the charge. In the past six years with an average of eighteen calls a year, we have only failed three times to collect.

In this small community where you know most everyone, it is very difficult to say "We can't come and help." I understand there is an effort being made now to create fire department districts for rural service, which would be supported by taxes from the districts involved.

We are very proud of our organization, even though, by comparison with other departments, we would be small potatoes. We have worked well together and have accomplished some satisfactory results.

We have been quite active in fire prevention, working through the schools and businesses and during our recent drought had only one serious grass fire within a 15-mile radius of town. We feel this was because of our fire prevention efforts.

Richard Schmitt, Chief, Washington, Mo.: We provide fire protection to surrounding areas at the rate of $1.00 a year. If not a member, we charge $25.00 for the first hour and $25.00 for

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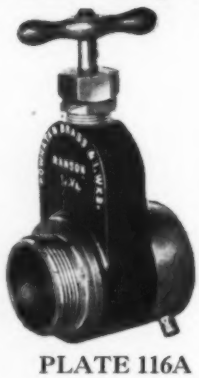

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every hour after that.

Some farms have ponds, but in most cases we have to depend upon the water in the tank.

We are a volunteer department, and our system has worked out satisfactorily.

J. E. Reed, Chief, Freeport, Tex.: We do not make any charge for responding to out-of-town runs.

We must depend upon the water carried on the apparatus.

We have three paid members and the rest volunteer.

Among the Buffs

By Paul C. Ditzel

WITH cold weather settling in throughout the country, fire fans report their departments are doing quite a bit of work.

From Detroit, Ed. R. Damaschke, secretary of the Detroit Fire Buffs Association, reports fire is busting out all over. Box 114 at Clark and West Jefferson Avenues was pulled at 7:02 one Saturday morning. The second, third, fourth and fifth alarms followed within 20 minutes as first arriving companies found the Timken Axle Co. Heat Treating Dept. and the McCarthy-Root Co., which does packaging work, fully involved. Later a special call went in for three more pumpers and a hose company.

The following day a four alarm fire at Box 5347, Elmhurst and Turner Avenues, damaged a lumber mill, a sash and door works and four surrounding garages. Four days later a second alarm was pulled for an apartment house fire. Later, fires in a barrel and drum renovating plant and another apartment house also resulted in multiple alarms, Ed reports.

Comes now Arthur "Smokestack" Hardy, of 615 N. Carrollton Ave., Baltimore, Md., to inquire whether my several job changes and house movings in the past few months are the result of the California climate. Smokestack is in his glory as an auxiliary fireman in the Baltimore Fire Department.

"My first run," says Smokestack, "was to Box 445 and was a false alarm. Half an hour later, however, we were sailing out of quarters on the fourth alarm to Box 4122, which worked up to eight alarms. It was a downtown blaze.

"All members of our Fire Club, S.H.C., are auxiliary firemen. We finished our training months ago and have equipment, helmets, coats and boots and are assigned to engine companies."

Smokestack enclosed a stack of newspaper clippings showing him battling a fierce eight-alarm blaze in Baltimore. Smokestack is the best fireman I know—the best colored fireman, that is.

Here's that log of alarms I mentioned in a recent column, having to do with a recent rail disaster at Harrow, England, when 112 persons were killed and 166 injured. Information comes through the courtesy of my close friend, Geoffrey F. D. Pratt, editor of *Fire Protection Magazine*.

The Harrow and Wealdstone station received the train wreck call at 8:19 a.m., and sent a predetermined emergency attendance of two pump escapes, one

pump, an emergency tender and four accident ambulances.

On receipt of the first information message by radio at 8:29 a.m., ambulances "were made up to 10" and at 8:38 the request was "make ambulances 20." By mid-morning there were eight pumps in attendance, 21 ambulances, 90 firemen and 42 ambulance men. Just goes to show that the fire department is always in the front lines when disaster strikes, even if there is no fire following.

Brooklyn's "The 255 Club elected its 1953 officers recently. President is Harold Graham. Others: Frank Sautella, vice-president; John Gallagher, secretary; Joseph Madden, treasurer and an executive board of William Klumpf, Robert Minze and Richard Nelson.

I received a large number of Christmas cards from fire buffs and bell clubs throughout the United States. Wish there was room to acknowledge them individually. And more important: time to acknowledge each one with a letter. Many of the clubs have had ingenious Christmas cards printed with a fire motif.

Bill Herries, P. O. Box 142, Midtown Station, New York 18, N. Y., offers some tips to fans who take pictures.

"Always snap good solid hose streams and at no time send any pictures to publications where streams look ridiculous, causing comment by fire commissioners and underwriters," says Bill who claims he is the "Fire Buff News Photographer of N. Y. C."

"Also, all fotogs should never have published a picture showing a firefighter smoking at scenes of fires. If a group of firemen are standing idle at a scene of a fire, try not to photograph it. Always show action," says Bill.

William Werner, 63 Woodstock Ave., Boston, Mass., said the Boston Fire Department has had some busy weeks with some multiple alarms, usually two in a row.

"Probably the greatest thing we ever put on were the radios," says Bill. "The radios paid for themselves in just one recent busy period and I don't see how anybody gets along without them."

Frank Happe, 2019 E. 34th St., Brooklyn 34, N. Y., said he's sold on Baltimore's modernization plans. He recently visited some of the new fire stations in Baltimore and says, "they are not firehouses, they are palaces." He describes them as having combination electric ranges and refrigerators, modern metal furniture with blue leather backs. Frank also promises to send along some photos of New York's marine fire department. Sorry, I'm not a photographer so we could trade, Frank.

C. F. Guntermann, secretary of Box 65 Club, Bay City, Mich., also sends along fireboat pictures, per my recent comment that my own specialty is fireboats. The Box 65 Club operates out of Fire Department Headquarters in that city on Lake Michigan.

That's it again for this month. In closing, would like to ask you club secretaries to type your letters if possible. I've got a number of stories awaiting this column, but I can't use them because I can't read the secretary's handwriting and I hate to misspell names —just a trait left over from my days as a cub reporter. For the second month running, believe it or not, I'm at the same address: 1246 Tamarind Ave., Hollywood 38, Calif., and I'm still pounding a rewrite mill at the Los Angeles *Daily News*.

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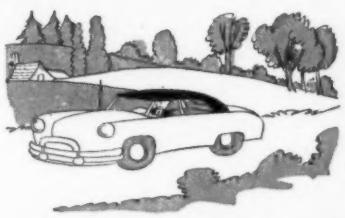
1. 

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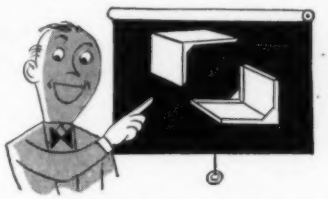
2. 

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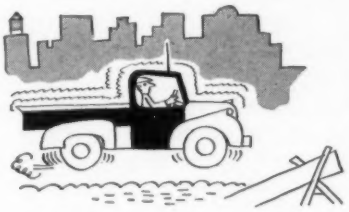
3. 

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Effect of High Temperature on Water

To the Editor:

In "The Fire Chief's Handbook," page 265, "Small Streams on Hot Fires," the statement is made: "The amount of heat taken away from the fire to break up the water into its two parts, hydrogen and oxygen, is exactly equal to the amount of heat which these gases give up when they burn. So there is no increase of heat whatsoever in the fire by using small streams or using streams which break into spray before they hit the fire. However, they may be of little value for they may change into steam or vapor and pass off without ever reaching the seat of the fire." The impression is gained that it is possible for heat to break water up into its two elements.

From a recollection of basic chemistry, it has been believed that there are only two ways to break water up into its two elements: electrolysis and immersion in molten metals. What is your opinion in this matter?

A. F. R.

Answer: It is our belief that water cannot be dissociated by heat into the two elements oxygen and hydrogen, except in the presence of certain materials.

At practically all fires encountered by the fire service, carbonaceous material is present.

With relation to the action of steam (vaporized water) in the presence of heated carbon, the following is quoted from "Manual of Firemanship" issued by His Majesty's Stationery Office, London, England:

"Reaction of Carbon with Steam. Here it is appropriate to call attention to a somewhat similar process which occurs when steam comes into contact with red-hot carbon as shown in the equation below:

	$C + H_2O = CO + H_2$ — 3,260 B.T.U. (Steam) for 12 ozs. of carbon
Weight in oz.	12 + 18 = 28 + 2
Heat of reaction	3,260 B.T.U. absorbed per 12 ozs. of carbon or 4,350 B.T.U. per 1 lb. of carbon.

"Here the carbon is able to take oxygen from the steam, producing carbon monoxide and setting hydrogen free. A bright-red heat (about 1,750 degrees F.) is necessary to obtain a result as indicated by equation. At lower temperatures carbon dioxide also is formed in some quantity. It is necessary to supply energy to the system to bring about this decomposition of steam, i. e., 3,260 B.T.U. for 12 ozs. of carbon or for 18 ozs. of steam decomposed, and 4,350 B.T.U. per 1 lb. of carbon used. In this respect the process resembles the decomposition of carbon dioxide by carbon. When water is thrown upon growing carbon, e.g., or carbonized timber, some water must be evaporated to steam which will be superheated until, at some temperature above a red heat, decomposition takes place according to the equation priviously given. Insofar as this happens, heat may be taken from the glowing carbon but the process would cease when the temperature falls below a red heat. The calculation above, it should be noted, has been made on the assumption that steam is used. If liquid water is used, the cooling would be greater by about 30 per cent.

"While this chemical cooling of the fuel bed has some advantage, it is only gained at the expense of turning the solid carbon into a mixture of two inflammable gases, one of them actively poisonous with all attendant disadvantages. Thus the inflammable gases may rise and ignite on meeting the necessary air elsewhere and so help to spread the fire."

Regarding this phenomena, Bulletin No. 165, issued by the National Board of Fire Underwriters, has the following to say:

"From a scientific or technical standpoint, it is known that red-hot iron and incandescent charcoal or coke will react with steam or water vapor, the oxygen of the water combining chemically with the charcoal or iron or coke. As water is composed of two atoms of hydrogen and one of oxygen, it can be seen that a large volume of hydrogen will be released. This reaction is used in the production of city gas, where steam is passed through incandescent coal, and free hydrogen and other gases are produced, collected, enriched, and then piped through the streets and used for heating, cooking and lighting. Under these conditions there is no explosion as there is no oxygen remaining and none can enter the generator. There must be free oxygen to mix with the hydrogen before it can burn, and before it can burn with explosive rapidity, the oxygen must be present in sufficient quantity and must be properly mixed with the hydrogen."

When "Size Up" Should Be Started

To the Editor:

In a recent examination for captain, one of the test items read "sizing up a situation begins with the response to the alarm and not with the arrival on the fire grounds." This question was to be answered either "true" or "false." How should this question be answered? C. A. W.

Answer: By "size-up" of a fire is meant a quick mental analysis of the fire, tak-

ing into account all the details which have to do with the handling of the fire, such as the size of the building, nature of contents, hazard to life, extent of fire, direction of travel, direction of wind, nature and proximity of exposures, auxiliary fire protection available for use by the fire department, and other pertinent points.

Where the alarm is received from a street box, the fire department, before arriving at the fire, would be in possession of only one item of information, namely, direction of wind. Not knowing any of the other factors, it would be impossible to make the size-up until the actual location of the fire were determined.

Under these conditions, it is our belief that the size-up begins when the department pulls up at the scene of the fire.

By "pulling up" is, of course, meant the initial approach to the fire site.

On the other hand, if the alarm were by phone, radio, or other means, where specific information on the nature and location of the fire were made available to the fire department, then the planning of the attack on the fire might conceivably be started en route to the fire. The latter condition is quite rare, however.

We believe this question should be answered "False."

Reaction and Back-Pressure

To the Editor:

In the July issue of FIRE ENGINEERING, page 523, there is a problem on nozzle pressure on elevated lines and according to the formula used on this problem it bears out the method which I have been teaching for several years.

The following has been taken from another text and seems to me to be contrary to what I have read on the subject.

"Every fireman knows that there is a pull-back or back pressure at the nozzle when discharging, which varies in amount with different sizes of nozzles and discharge pressures. When we consider that the nozzle is blocking the velocity of the outer cylinder of the fire stream, and when we realize the meaning of that law of motion that says, 'to every action there is an equal and opposite reaction,' we can readily understand what causes back pressure. A very simple rule will enable you to get the pounds of pack pressure for a given pressure and size tip. Multiple the square of the tip diameter in inches by the pressure in pounds and multiply this result by 1½. For example, a one-inch nozzle at 50 pounds nozzle pressure: $1 \times 1 \times 50 \times 1\frac{1}{2} = 75$ pounds back pressure. When a shut-off nozzle is opened or closed quickly, the initial back pressure is increased nearly 50 per cent above these figures, thereby indicating that great care must be exercised to avoid losing contact or

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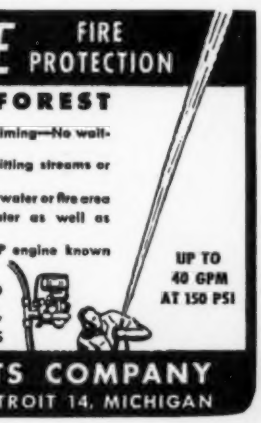

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being knocked off a ladder, roof or other structure."

My study of fire service hydraulics has been different in several texts than the above paragraph and the simplest explanation of back pressure which I have found and have been teaching for several years is contained in "Fire Service Hydraulics" by Fred Shepperd, which says that the term "back pressure" is the downward pressure of water.

J. E. K.

Answer: Mansfield Merriman, probably the greatest authority on hydraulics, stated in his "Treatise on Hydraulics," published in 1903, that: "The *reaction* of a jet or stream is the backward dynamic pressure in the line of its motion, which is exerted against a vessel out of which it issues, or against a surface away from which it moves."

The pressure, represented by the head of water in the hose line, or other container, is normally called static head. This term static head, so used, is rather confusing. In the first place, static head is normally considered the head (pressure) of water when at rest. You will appreciate that when water is flowing, the head of water in the hose line or other container is not truly static (at rest). Furthermore, where a line is laid down an incline, the static head is away from the pumper, and aids the pumper.

To get around this confusion, the static head in lines attached to pumpers, through which water is being delivered, has been termed "back pressure." We have found no reference in any of the handbooks where *back pressure* has been used to indicate *nozzle reaction.*

Furthermore, the term "back pressure" is quite commonly understood in the fire service to mean that pressure which is exerted by the head of water in the hose line, or other container, against a pumper.

Only confustion could result by calling such "back pressure" "reaction."

Cover Picture

Weekly fire and safety precautionary drills paid off on December 26th, to save the lives of employes of the Linde Air Products Co.'s Prest-O-Lite Division, who fled only seconds before a series of blasts demolished the 200-foot-long one-story metal-sheathed building at 539 Concord Ave., West Cambridge, Mass.

Fire, caused by friction from escaping gas as workers were loading one of the tanks, touched off the explosions among some 200 cylinders about 1:15 P.M. to rock the neighborhood for 30 minutes and smash windows a half-mile away.

The first blast sent half the metal roof flying 150 feet through the air. Sixty-pound acetylene and oxygen tanks were blown as far as 400 yards away. Vivid green, brown and orange flames rose 200 feet above the building, and over them hung a huge mushroom-shaped cloud of smoke that resembled an atomic explosion. The burning gas generated heat at such intensity that heavy metal girders were twisted.

The alarm was sounded by Mae Grieves, 24, an employe, who was at work in the office of the structure. The eleven employes were working at the

other end of the building. Hearing the cry of fire, Miss Grieves reportedly "turned on the sprinkler system" and sounded the alarm. The frequent fire drills had taught employes what to do. Men manned first aid fire appliances and attempted to extinguish the fire, but when it was obvious this could not be done, and the explosions threatened, they fled.

Firemen under Deputy Fire Chief Henry Kilfoyle were quickly on the scene, and the Chief ordered a second alarm immediately. Further alarms would have been useless, it is reported, because no amount of equipment could have coped with the situation. Efforts were concentrated on preventing extension of the blaze to the main building of the Linde firm, 250 feet distant, and to other nearby property.

The intense heat and flying missiles kept fire fighters well back from the blaze. Hosemen lay flat on the ground, shielding their heads as best they could while directing hose streams. Those who set up a battery of deck guns aimed their nozzles, locked them into place, and withdrew to points of safety.

Fire Chief John F. Collins, who with Chief Kilfoyle directed operations, said it was a lucky thing the plant blew up before the firemen arrived. Otherwise, they would have been inside, and some certainly would have been killed.

World Wide Fire News

By Roi B. Woolley

Blackbeard's Castle Burns

Blackbeard's Castle, historic Virgin Island landmark, was destroyed by fire early on December 2.

Believed caused by a short circuit, the lookout used by the pirate, Edward Teach, who died in 1718, was completely burned out, along with a near-by bungalow.

The stone castle, rising 252 feet above the sea, was turned into a private dwelling about five years ago by a retired industrialist of Nashville, Howard A. Jackson. Circular in shape, the structure dominated a hill north of St. Thomas, and looked "like a windmill with its arms lopped off." In recent years a hotel had been built around the tower.

Loss on the castle and bungalow is estimated at over $100,000.

* * *

Air Officers Die in Barracks Fire

Fire, which broke out shortly after 6:00 A.M., December 7th, on the second floor of the two-story barracks at the Rapid City, S. D., Air Force Base, swept through the wooden structure, bringing death to five and injuries to six other officers. Thirty-three officers escaped the flames, at least two by jumping from second-story windows.

The blaze, of undetermined origin, occurred when 44 men were asleep in the structure. Officers on the ground floor smelled smoke and sounded an alarm. Most of those on the second floor fled down an outside fire escape but two were trapped in their rooms and died. Three others, who managed to get out of their rooms, were overcome before they could reach the fire escape.

Officials who are investigating the blaze said most of those in the barracks were on detached duty from other Bases,

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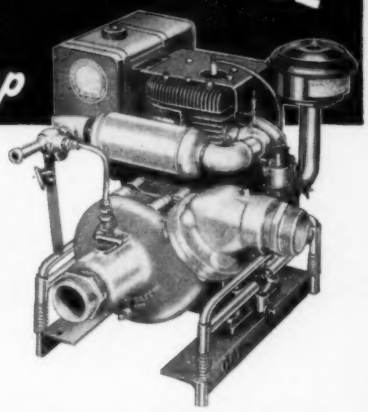

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MODEL 6201

Fire departments everywhere are enthusiastic in their praise of the "Dual Fire Fighter" pump. It has, on numerous occasions, saved property from costly fire damage, bringing fires quickly under control in isolated localities where large truck pumpers could not reach the source of water.

The "Dual Fire Fighter" is especially designed for fire fighting equipment. It is used to relay water to the truck pumper or it will fight fires direct. Mounted on a truck or trailer it is an effective piece of fire fighting equipment for rural volunteer fire departments.

- As a booster pump it will deliver 175 g.p.m. through 300 ft. of 2½ in. hose to the top of a hill 50 ft. high.
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- It primes in 15 to 30 seconds. It weighs only 162 lbs. Equipped with carrying handles, easily carried by two men.

Quick action of the Dual Fire Fighter may assist you in saving costly fire losses.

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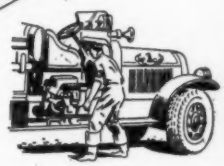

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Excellent fog tip for booster line work on grass fire when water conservation is important. Excellent in fixed installations. Keeps water damage to minimum since it delivers only 2½ gallons of water at 50 psi. Available for larger volume.

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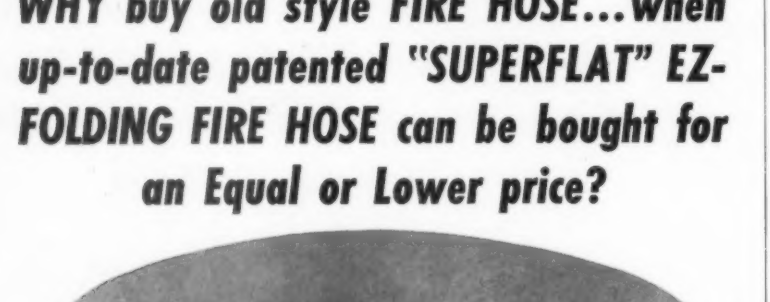

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attending a training program. The Field is a base for B-36 bombers.

The building is steam heated and typical of the barracks erected in World War II. Firemen prevented the blaze from extending to other structures.

Two other fires in military installations at about the same time, cost the lives of a Naval officer and an enlisted man. In the first, on Dec. 6, Navy Commander John Dexter Marble was burned to death when his Quonset hut apartment at the Naval Air Station, Alameda, Calif., was destroyed by fire. In the second tragedy, Sergeant Joe W. Graves lost his life when fire swept a military barracks at Fort Riley, Kan. Eight famiiles were driven from their homes by this blaze in the Camp Whiteside area. Three fire companies fought the fire for two hours before it was controlled.

* * *

Mexico Explosive Plants Blow Up

Two mixing plants at a Government explosives factory in Mexico City, Mexico, blew up December 4. No casualties were immediately reported, but damage was said to be heavy.

The twin blasts, only seconds apart, shook the entire city. Police said they were unable to locate the families of several soldier guards living in the area. Only a few persons were believed to be at the plants at the time of the explosions.

The blasts damaged the towers of the government radio station a short distance from the factory. Hand grenades and shells were reported still exploding over an hour later. No report of fire following the explosion was received.

Police and soldiers sealed off the area in a deep ravine west of the city on the road to Toluca.

* * *

Tragedy in Tel-Aviv

Moshe R. Hartman, Chief Mechanic, Tel-Aviv Fire Brigade of Tel-Aviv, Israel, reports a "tragic-comedy" fire that indicates that fools rush in where angels fear to tread in other lands besides the United States.

Not long ago a cooking stove exploded in a collective settlement about 30 miles from Tel-Aviv, and the clothing of a 13-year-old girl caught fire.

Two other girls ran to help the unfortunate girl and they were successful in nearly smothering the flames, when a passer-by got into the act. He took a milk can and threw its contents, which he supposed was milk, on the victim.

Unfortunately, the container did not contain milk or water, but kerosene. As a result, all three girls died later of burns. The cookhouse and dining room of the settlement were burned out completely and the Tel-Aviv Fire Brigade, although it made speed to reach the scene from its location 10 miles away, found nothing to do.

* * *

Echoes of New York's Siren Situation

As the readers of FIRE ENGINEERING know, the former Director of New York City's Civil Defense, Arthur Wallender, ruled warning sirens off of all fire, police and other vehicles, including ambulances.

Mr. Wallendar has gone, but the sirens remain silent. Meantime, emergency vehicles throughout the city have been using any old kind of warning devices to fight traffic. That the substitution has been anything but satisfactory, everyone close to the facts will admit.

Latest headache is that of the Depart-

ment of Hospitals, which has been doing its best with bells (all types from the locomotive and fire bell, to cowbell) hooters, tooters and squawkers.

According to Comm. Marcus D. Kogel of the Department of Hospitals, screeching exhaust whistles must be the aspirin for this headache. So, all city-operated ambulances will be fitted with "exhaust" whistles as the substitute for the outlawed emergeny siren. The new measure also will be recommended to voluntary hospitals operating 53 privately-owned emergency ambulances.

According to press reports, a survey of the ambulance service made since the siren was prohibited shows that the average running time for an emergency call has increased as much as 100 per cent. The run from Roosevelt Hospital, 59th st. and 9th ave., to Times Square used to take five minutes; now it takes 11. The trip from Roosevelt Hospital to Bellevue Hospital, 29th st. and 1st ave., formerly took 13 minutes; now it takes 28.

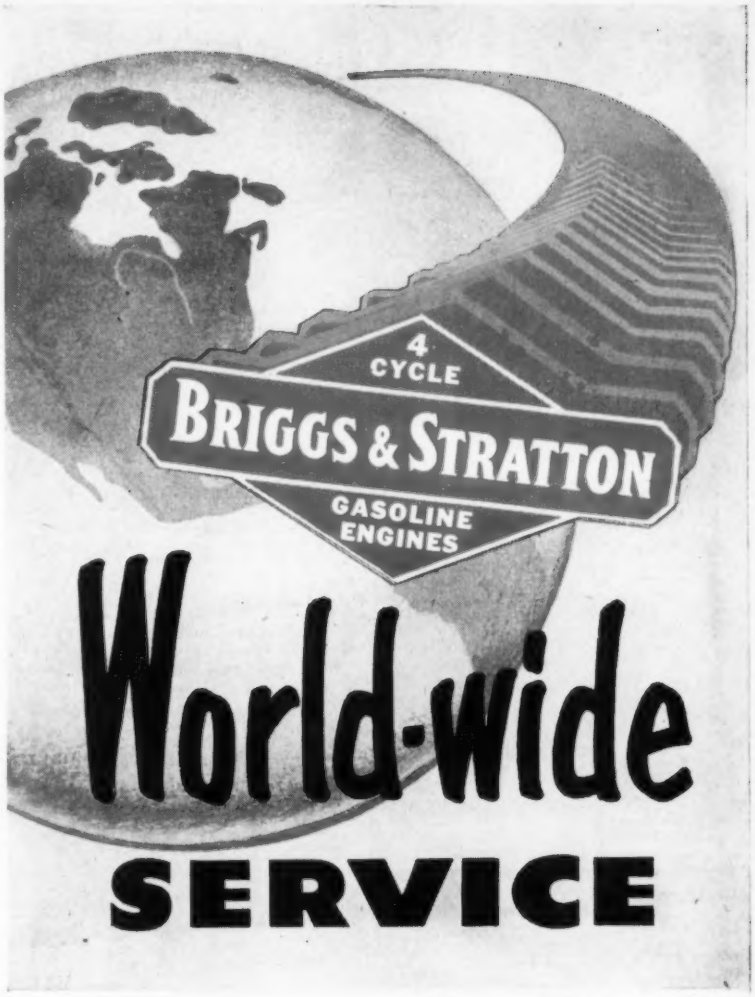
Dr. Kogel said that "while these delays rarely involve a matter of life and death, there is always the possibility that they will. Prompt treatment in hospitals can avert serious after effects, such as excessive loss of blood, shock and permanent deformities." He said the city's emergency ambulances responded to 332,739 calls involving 377,292 persons, in 1951. "Traffic congestion," Dr. Kogel continued, "has no doubt had a negative effect on ambulance service and has been responsible for delays. The installation of exhaust whistles is a step we are taking as a practical measure to break up traffic jams."

Wonder if Dr. Kogel has checked on the advantages of exhaust whistles as compared with electric sirens? The New York Fire Department has a world of factual data on the subject, secured first hand.

* * *

From the News Ticker

Fire has destroyed the main mill of the Capilano Timber Co., one of the largest shingle plants in British Columbia, with loss of nearly $1 million. . . . 12 persons were killed and 200 injured, most of them school children, when a railroad locomotive exploded, hurling three packed coaches from the tracks west of Seoul, Korea. American doctors rushed to the scene in 25 U. S. ambulances, performed 10 emergency amputations on the spot to free victims from the wreckage. There was no fire. . . . A sizeable meteorite crashed to earth in Cordoba province, Argentina, gouged a 130-foot wide crater and started a forest fire. . . . Fire on December 9 last, burned out a large section of Butuan City on Mindanao Island, leaving about 2,000 homeless. Loss estimated at $750,000. Police suspect arson. . . . Two Sabre jets set off 100 private burglar and fire alarms in San Francisco, broke windows in San Rafael and set residents of the San Francisco Bay area worrying about explosions last summer. Jets did it by pulling out of power dives at approximately the speed of sound, causing "sonic explosions." . . . In Columbia, a mob returning from the funeral of five policemen, set fire to the headquarters of the Liberal Party, the plants of two leading newspapers and homes of two leaders of the Opposition Party. Three persons injured, five buildings destroyed. . . . "Susie," a pet monkey, started a fire in the Hamilton, Ont., home of Edwin J. Smith by knocking a



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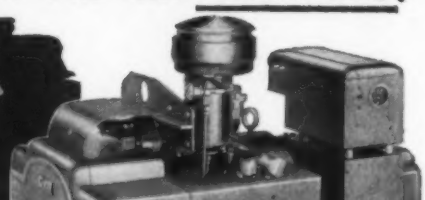

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CHICAGO 12, ILLINOIS

lamp onto a bed. Fire Chief Edmund Nixon said the animal probably chewed on the electric cord, causing a short circuit. "Susie" received minor burns, and firemen held damage to minimum. . . . Fire in the business section of Buenaventura, Columbia, Chief Pacific port, destroyed three city blocks. One woman was killed by a fire engine rushing to the scene. . . . Four persons were killed and six injured in the explosion of a World War II Japanese Navy torpedo at a Kure dockyard. Four others were missing. Torpedo blew up when a workman began to cut it up for scrap. Blast leveled 16 homes and damaged six others. . . . In Singapore, a man passed a fire engine going in the opposite direction while he was driving in downtown. Quickly he made a U-turn and gave chase. For two miles he grinned at the firemen ahead of him, and they cheerfully waved back at him. The fire engine turned into a suburban road and stopped in front of a new bungalow, which was ablaze. The man's grin vanished. The bungalow was his. . . . Fire broke out in the Hungarian Embassy at Vienna, Dec. 14, and burned out a room. Officials declined to discuss the blaze.

What's Burning?

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of December, 1952.

Month Ending December 31, 1952

Birmingham, Ala.—Shades Mountain Country Club destroyed.
Arkadelphia, Ark.—Haywood Gymnasium at Henderson State Teachers College destroyed.
Texarkana, Ark.—Swank Countryside Club, a mile west on Highway 67, destroyed.
Chico, Cal.—Anglo-California Bank bldg. damaged.
Claremont, Cal.—Pomona College Armory destroyed. Arson.
Fresno, Cal.—Cudahy Packing Co. turkey plt. destroyed.
Leucadia, Cal.—Streeter Blair Antique Shop destroyed; two dwellings adj. & several trailers, damaged.
Los Angeles, Cal.—Fires-Linde Air Products Co. destroyed.
Los Angeles, Cal.—Alladin Plastic Inc., factory & whse. destroyed.
Pasadena, Cal.—Annamdale Country Club destroyed.
San Jose, Cal.—Dwelling of Martin Ray, destroyed.
Denver, Colo.—Whse. leased by Carpenter Paper Co. destroyed. Overheated furnace.
Denver, Colo.—Denargo Market owned by Union Pacific Railroad destroyed. Oil stove.
Denver, Colo.—Plotkin Bros. bldg., housing school supplies & other products, destroyed.
Pagosa Springs, Colo.—Duke City Lumber Co. mill, four miles west, destroyed.
Manchester, Conn.—Barn of Hackett Tobacco Plantation, Buckland section, damaged. Careless smoking.
South Norwalk, Conn.—Donnelly's Dept. Store in business section, destroyed.
Dania, Fla.—Banyan Club on U. S. 1 destroyed.
Panama City, Fla.—Shipyard operated by Seaboard Machinery Corp. destroyed; firm makes a new type hatch cover for ships.
East Atlanta, Ga.—Cabinet plt. of J. M. Floyd Co. destroyed.
Vidalia, Ga.—Tobacco whse. destroyed.
Coeur d'Alene, Idaho—Baacouer D'Alene Laundry destroyed. Faulty fuel bins.
Chicago, Ill.—Bldg. occupied by Alec H. Bodanis, used car salesroom; communicated to bldg. occupied by Lincoln Lubrication Co.; communicated to bldg. owned by N. Kauffman, wholesale tool sales, damaged.
Chicago, Ill.—Bldg. housing Maier Lavaty Co., uniform mfrs., destroyed.
Chicago, Ill.—Bldg. housing Bradshaw & McCartney wholesale furniture firm and Ashton Sales Co., novelty firm, damaged.
Chicago, Ill.—International Harvester Co.'s twine mill destroyed.

Farmersville, Ill.—Farmers Exchange grain elevator destroyed.
Princeton, Ill.—Pioneer Hybrid Seed & Corn Co. processing plt. destroyed.
Crawfordsville, Ind.—Hockett Sales Room and garage on U. S. 136, destroyed.
Earl Park, Ind.—Kenworthy Grain Co.'s elevator & feed mill destroyed.
Indianapolis, Ind.—Vonnegut Hardware Co. destroyed.
Indianapolis, Ind.—Freight bldg. of B. B. & I. motor Freight, Inc., damaged. Oil explosion.
Michigan City, Ind.—Michigan City whse. filled with hog hair used for furniture upholstery in bldg. owned by Blockson & Co., destroyed.
Pendleton, Ind.—Idlewood County Clubhouse destroyed.
South Bend, Ind.—Factory & whse. of Colpaert Realty Corp., makers of prefabricated housing, destroyed. Oil furnace.
Des Moines, Ia.—Bldg. housing Supreme Baking Co. destroyed.
Des Moines, Ia.—Bldg. housing fourteen shops and office including five apt. units in Roosevelt shopping center, damaged.
Des Moines, Ia.—Bldg. housing fourteen shops and office including five apt. units in Roosevelt shopping center, damaged.
Coffeyville, Kans.—Whse. at Continental Can Mfg. Co. plt. destroyed.
Kansas City, Kans.—A two-story bldg. housing the Ringside Grill destroyed. The New Yorker Hotel and the State Hotel damaged. The 20-story Phillips Hotel damaged by smoke and heat. Fire started in a second floor paint and repair shop which is used by the Phillips Hotel in the bldg. housing the Ringside Grill.
Fredonia, Kans.—Wilson County Lumber Co. damaged.
Parsons, Kans.—Alderman Hardware & Farm Equip. bldg. destroyed.
Bowling Green, Ky.—Manhattan Towers Dinner Club destroyed.
Scottsville, Ky.—Bldg. occupied by Allen County Farm Implement Co. and Dewey O. Whittemore Wholesale Paper Co., damaged.
Fort Fairfield, Me.—Town Garage destroyed.
Rockland, Me.—Two resort hotels, two dwellings, bowling alley, 13 other business establishments, destroyed.
Baltimore, Md.—Coliseum, Baltimore's major indoor sports arena, destroyed.
Cordova, Md.—Chicken house owned by Delaware Poultry Co. destroyed.
Elkton, Md.—Maryland Cork Co. plt. destroyed. Dust explosion.
Salisbury, Md.—Tull Body & Parsons Machine Shop destroyed.
East Boston, Mass.—Boston & Albany R.R. Pier No. 3 and cargo from S. S. American Manufacturer damaged. Naphthalene crystals ignited.
Malden, Mass.—Bldgs. and equip. of Gil Wyner Construction Co., Malden Equip. Co. and Bacon Brake Lining Co., at Malden-Everett city line, damaged. Defective oil heater.
Maynard, Mass.—Wilson Elementary School destroyed.
Bank River, Mich.—Machine shop, implement store, lumber yd., owned by Julius Kruss, destroyed. Defective wiring.
Detroit, Mich.—Wayne University Medical School research laboratory destroyed. Exploding chemicals.
Napoleon, Mich.—Combination feed mill, lumber yd. and implement sales agency, owned by Orin Heselschwerdt, destroyed.
Minneapolis, Minn.—Standard Valve & Coupler Co. plt. damaged. Explosion.
Stillwater, Minn.—Minneapolis-Brede, Inc., sign co., destroyed.
Cuba, Mo.—Shoe die factory of Echo Supplies Co. destroyed.
Grays Summit, Mo.—Ralson Purina Co.'s experimental farm destroyed.
St. Louis, Mo.—Liberty Foundry Co. plt. damaged.
Omaha, Neb.—Puritan Mfg. Co. destroyed. Company manufactures and repairs heavy machinery and equip. for flour and feed mills and grain elevators. Cigarette.
Bergenfield, N. J.—Bldg. housing six stores destroyed.
Bound Brook, N. J.—Bakelite Co. damaged. Explosion.
Camden, N. J.—Grace Baptist Church damaged. Explosion.
East Orange, N. J.—First Congregational Church destroyed.
Newark, N. J.—Allied Federal Screw Machine Products Co. damaged.
Vinceńttown, N. J.—Dairy barn owned by Joseph Cowperthwait, destroyed.
Wallington, N. J.—Wallington Food Market damaged.
Albuquerque, N. M.—Hinkel's Hiland Store destroyed.
Hobbs, N. M.—American Legion Hall destroyed.
Las Cruces, N. M.—DeLuxe Cafe, El Rio Barn and Las Cruces Hotel, destroyed. Boiling grease caught fire.
Auburn, N. Y.—Derrick boat between Cayuga

Chief– Save More Lives in '53!

Here is a program which will greatly benefit your department as well as your community.

To save more lives in '53 make sure of these two things:

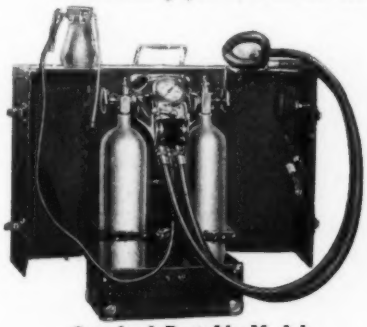
(1) That you have the latest equipment—which does most for the patient.

(2) That your men are well trained and know how to use the equipment.

Fire Chiefs throughout the country in hundreds of cases have learned that Stephenson Resuscitators do more for the patient and save more lives.

Let us show you the dependability, simplicity and effectiveness of the Stephenson Resuscitator at your next meeting.

Write today for demonstration. No cost or obligation.



Standard Portable Model
Other Models to Fill Every Need

Save Lives,
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with TIP-OFF (Fingertip Control) Water Pressure Valve and Fogg-It-5 Nozzle

At last, an applicator that can be used effectively with ¾" garden hose even with low water pressure! Greater reach eliminates hazard to inexperienced fire fighters. Fogg-It-5 Safety Nozzle smothers small fires safely with a blanket of fog. An ideal unit for service stations, garages, laboratories —especially to stop fires involving paints, gasoline, chemicals. "Ask Any Fireman." Every small shop can afford one. If your dealer doesn't stock—write FOGG-IT, direct. Dealer inquiries invited.

Applicator and Nozzle, Complete, only $14

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We quote from Harry Henderson's

High Ladder Boys

a story of Hook & Ladder Co. #26, New York City.
(Runs 2155, Workers 1255 in 1951)

"The most useful tool on the truck is a new one designed several years ago by Deputy Chief Hugh Halligan, called the 'Halligan Tool.' About 30" long, it is an ugly bar of forged steel with crowbar teeth at one end and a three-sided combination hook, axe, and sledge at the other end. It is used to rip open skylights, bulkhead doors, punch holes in the roof, knock down cornices, pry open doors and flooring."

"The thing we all like about it," says Mike Sisty, "is that it weighs only eight pounds, can be used in a tight place, and can do anything."

'Nuff Said! ORDER NOW

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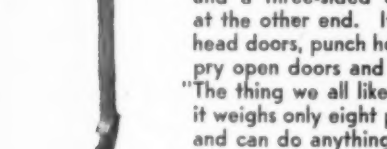
"DOES EVERYTHING—EVERYWHERE—TEN TOOLS IN ONE"

HALLIGAN TOOL



MODEL 20 SIRENLITE
for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

STERLING SIRENS

- **HANDSOME**
- **RUGGED**
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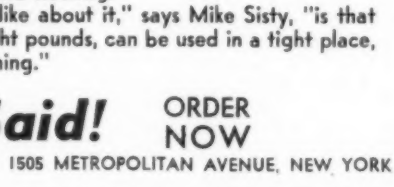
Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL M GENERAL FIRE ALARM SIREN
for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
58 ALLEN ST., ROCHESTER 6, N.Y.

Lake and State Barge Canal destroyed. Defective wiring.

Brockport, N. Y.—Weis Motors Bldg. destroyed.

Buffalo, N. Y.—Bldg. housing Western Express Co. destroyed.

Greig, N. Y.—Bldg. housing post office, genl. store & whse. in Lewis County village, destroyed.

LeRoy, N. Y.—Whse. used by Gus Baglio Distributing Co., beer dealers, destroyed.

North Tonawanda, N. Y.—Five bldgs. destroyed; two bldgs. wrecked, hundreds of thousands of board feet and prefabricated houses destroyed at the Bennett Lumber Yard.

Pine Bush, N. Y.—Barn on Howard Mance Jr. property destroyed.

Syracuse, N. Y.—Apt. bldg. destroyed.

Boone, N. C.—Bldg. occupied by Carolina Hotel, City meat market, Central Barber Shop, Skyline Restaurant and Craven Furniture store, destroyed.

Durham, N. C.—Durham Baking Co. plt. destroyed.

High Point, N. C.—Bldg. housing Ruters-Walters Veneer Co., Amusement Enterprises and apts. above, destroyed.

High Point, N. C.—Garage and storage bldg. owned by Fowler Motor Lines, destroyed.

Fayetteville, N. C.—Trailer Haven, trailer camp at Spring Lake; office bldg., grocery store, trailer and automobile destroyed.

Greenville, N. C.—St. Rachel's Catholic Elementary School, destroyed.

Barton, Ohio—Church of Our Lady of Angels in Belmont County community, destroyed.

East Liverpool, Ohio—Charles Sayre Furniture Co. damaged. Defective wiring.

Grand Rapids, Ohio—Bldg. occupied by Rapids Hotel, grocery of Edward Huffman and tavern of Mrs. Edith Marks, destroyed.

Port Washington, Ohio—Gardner Truck Stop garage destroyed.

Toledo, Ohio—Whse. occupied by J. W. Jaeger, Inc., wholesale grocery firm, destroyed.

Willoughby, Ohio—Simon bldg. occupied by H. F. Simon Clothing Store, Surn's Meat & Food Market, Waldorf Cafe & apts. destroyed.

Zenia, Ohio—Dairy barn at Ohio Soldiers & Sailors Orphans' Home damaged.

Burns, Ore.—Richard Kreisen office bldg. destroyed.

Pine Creek, Ore.—Midstate Lumber Supply Co., destroyed.

Portland, Ore.—Seven Corners Paint Service destroyed. Light bulb explosion.

Salem, Ore.—Bldg. housing Liberty Investment Co. and apts. destroyed.

Vale, Ore.—Earl Winegar's onion whse. destroyed.

Allentown, Pa.—Barn on property of Lehigh Portland Cement Co., near Fogelsville, destroyed.

Carnegie, Pa.—Louisa Theatre bldg. and Arcade Bowling Alleys, destroyed.

Chambersburg, Pa.—Paint shop of L. B. Smith Co. destroyed.

Coal Township, Pa.—McKinley School annex destroyed.

Glenside, Pa.—Keswick Theatre damaged.

Harrisburg, Pa.—Whse. occupied by Bailer Dress Corp., Ess & Dee Venetian Blind Mfg. Co. and Harrisburg News Agency, damaged.

Middlesburg, Pa.—Emanuel Lutheran Church destroyed. Exploding boiler.

Mount Morris, Pa.—Kennedy Garage destroyed.

Pittsburgh, Pa.—Keystone-Haverford Co., Inc., toy stock, destroyed.

Pittsburgh, Pa.—Five and ten cent store and apt. house destroyed; shoe repair shop and another apt. bldg. damaged.

Red Lion, Pa.—GMH Tobacco Processing Co. cigar plt. and Peter McGuigan & Sons Tobacco Co. plt. destroyed.

St. Mary, Pa.—Elk County Specialty Co. store destroyed.

Tyrone, Pa.—Birmingham Presbyterian Church destroyed.

Vandegrift, Pa.—Wayne Fitzgerald Motor Co. garage destroyed. Explosion.

West Chester, Pa.—Barn owned by William McIlvaine, six miles north, destroyed.

Wilkes-Barre, Pa.—Our Lady Help of Christians Roman Catholic Church, Dorrance Corners, destroyed. Overheated furnace.

York, Pa.—Whse. owned by C. B. Klinedinst, bicycle and appliance dealer, destroyed.

Warwick, R. I.—Bldg. on Post Road, Apponaug section, of Isadore M. Gan, occupied by I. M. Gan Supermarket, MacConnell & Walker Architects, Gertrude's Gift Shop, Carl H. Johnson plumbing contractor and Alfred T. Kennedy barber shop, damaged.

West Warwick, R. I.—Archambault bldg. on Main street housing Aubin Photographic Studio; Lily Ann Bridal Shop; Silver Slipper Corp.; A. Kennedy & Co. and Donut Kettle Restaurant, damaged.

Greenville, S. C.—Three downtown furniture stores destroyed.

McBee, S. C.—McBee Methodist Church destroyed. Overheated furnace.

Atwood, Tenn.—Dairy barn on Herman Jones farm destroyed.

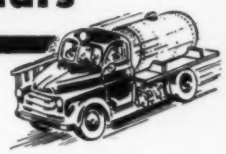
Knoxville, Tenn.—Kitts' business center on U. S. Highway 11-E destroyed.
Alice, Tex.—Alice High School damaged. Explosion in air conditioning system.
Bonham, Tex.—Fannin Hotel, Jimmy Dunn Service Station & Garage, A & A Cafe, Adamson's Barber Shop & Leeth Variety Store, destroyed.
Brenham, Tex.—Educational bldg. of First Baptist Church, destroyed.
Eagle Pass, Tex.—Edison's Dry Goods Store, Franklin's Women's Wear Store & the City Drug Store, destroyed.
Haskell, Tex.—Texas Theatre destroyed.
Houston, Tex.—Whse. occupied jointly by Piggly Wiggly Gulf Corp. and Sunbury Wine Rope Sale Co., Inc., destroyed.
Houston, Tex.—The Bruitt Co. garage damaged. Gas explosion.
Longview, Tex.—Daingerfield Elementary School damaged. Defective heating unit.
Perry, Tex.—Bill Dicourte Liquor Store destroyed.
Seymour, Tex.—White's Auto Store destroyed.
West Dallas, Tex.—Nearly completed apt. house of Federal Housing Project's slum clearance program, damaged.
Fillmore, Utah—Farmers Equip. Co. destroyed & Avalon Theatre & Fillmore Hotel, damaged.
Rutland, Vt.—Four store bldg. housing a genl. store, grocery, a beauty & barber shop and apts. destroyed.
Dillwyn, Va.—Planing mill of Burruss Land & Lumber Co. destroyed.
Fredericksburg, Va.—Rappahannock Shoe Co. whse. destroyed.
Newport News, Va.—Newport News High School destroyed.
Bremerton, Wash.—Farmers Market Foodstuff's destroyed.
Dayton, Wash.—Dayton Hardware Co. and American Legion Hall destroyed.
Chapmanville, W. Va.—Clubhouse of Logan County Club destroyed.
Hinton, W. Va.—Main bldg. of Hinton High School, Summers County, destroyed.
Huntington, W. Va.—Miller bldg. housing Collins & Childers men's apparel store, B. & B. Loan Office, Hunter P. Chambers Camera Shop & Century College of Commerce and several offices, damaged.
Gresham, Wis.—Barn on Hereford cattle breeding ranch of Harold & Conrad Volland, five miles north in Red Springs township, destroyed. Defective wiring.
LaCrosse, Wis.—Wisconsin Theatre, occupying rear section of two-story business block on Main Street, basement stocks of Kay Bee Apparel Shop & Honig's Gift Shop, occupying first floor stores, damaged.
Milwaukee, Wis.—Bldg. occupied by Max Branovan Shoe Store destroyed.
Milwaukee, Wis.—Rural Transformer & Equip. Co., brick mfg. plt., damaged. Hot plate.
Stevens Point, Wis.—Our Saviour's Polish National Church in Reid Township, destroyed. Overheated furnace.
Drumheller, Alta.—St. Anthony's Roman Catholic Church destroyed.
North Vancouver, B. C.—Lumber mill of L. & K. Lumber Co. destroyed.
Vancouver, B. C.—Western Steel and Bridge plt. damaged. Defective boilers.
Noblin, Man.—Dept. store and bank branch destroyed.
Roseburn, Man.—Manitoba Pool Elevator destroyed.
Dindas, Ont.—Collins Hotel damaged.
Huntsville, Ont.—Muskoka Auto Parts and Caron Barber Shop destroyed.
Sarnia, Ont.—Bldg. occupied as clothing store and apts. damaged.
Sault Ste. Marie, Ont.—Railway car repair bldg. at Algoma Steel Corp. mills, destroyed.
Lachine, Que.—Furniture store owned by P. E. Durocher and adj. bldg. operated by A & P and dwelling destroyed.
Davao, Pnilippines—Seven city blocks of this southern Philippines port, destroyed.
Butuan City, Philippines—Large section of this Mindanao Island City, destroyed. Arson.
Laoag, Philippines—This provincial capital of Ilocos Norte in northern Luzon, destroyed.

Syracuse Rescue Car Available as Ambulance

Rescue Company 1, of the Syracuse, N. Y., Fire Department, which boasts one of the most modern pieces of rescue apparatus, is now available for any emergency, including use as an ambulance, according to Fire Chief William J. Connelly.

Assurance that the Rescue unit will so serve the City was made by Chief Connelly, who points out that one reason for making the new unit so generally available is the existing shortage of ambulances in the City.

Build your own fire truck for a few hundred dollars



The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 125 lbs. pressure is the fastest and most important phase of fire fighting.

Do you have a garage, a truck and a mechanic with a little common sense? We have the pump you need. Write for details.

PERFORMANCE DATA—No. 26 PUMP SHOWN ABOVE

Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	150

For complete specifications of this and other Oberdorfer All Bronze Booster Pumps, and name of your nearest distributor, write:

FIRE PUMP DIVISION OBERDORFER FOUNDRIES, INC., Syracuse 1, N.Y.

QRS

Flameproof Chemicals

QRS DeLuxe for drapery material soft finish, dry cleanable.
QRS No. 8—Clear Xmas tree flameproofing does not change appearance of tree.
QRS No. 57—Flameproof paint for Xmas trees. Rubberized coating seals needles. Tree looks fresh after three months. Colors, white or green.
QRS No. 57—Flameproof paint for wood, for use outdoors or indoors.

Write for Catalog. Jobbers Wanted in Some Territory.

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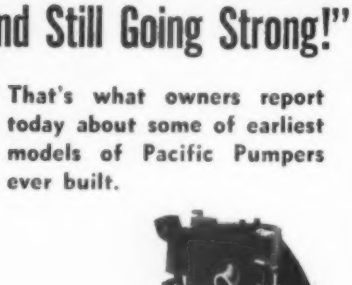
Chemical and Process Division
170 North Halstead Pasadena 8, California

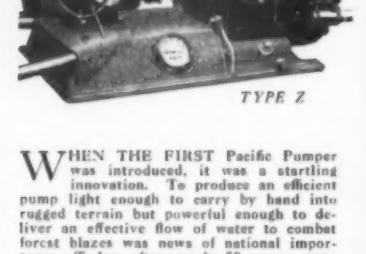
"Almost 30 Years Old and Still Going Strong!"

That's what owners report today about some of earliest models of Pacific Pumpers ever built.



TYPE Z

WHEN THE FIRST Pacific Pumper was introduced, it was a startling innovation. To produce an efficient pump light enough to carry by hand into rugged terrain but powerful enough to deliver an effective flow of water to combat forest blazes was news of national importance. Today, after nearly 30 years, many of the earliest Pacific Pumpers are still in use and are still the favorite of experienced fire fighters . . . mute testimony to the stamina and dependability built into all Pacific Pumpers . . . and to Pacific Pumper's policy of supplying parts for even the earliest models.



TYPE Y

Years of engineering research and thousands of practical field tests made possible the improvements incorporated in the famous Type Y Pacific Pumper . . . the most powerful unit ever built for its weight and size. The Type Y Pacific Pumper quickly won the approval of experienced fire fighters and fire fighting authorities . . . and is still the standby of many of the nation's most practical forest fire fighters. Newer, post-war models of Pacific Pumper are now available . . . all even lighter, more compact and durable, and more versatile for a variety of purposes.

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FIRE EQUIPMENT DIVISION
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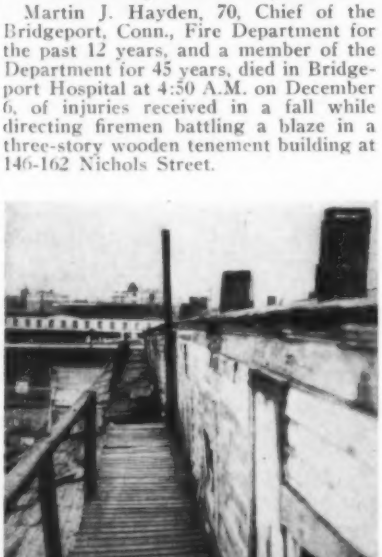
Obituaries

Chief Hayden Fatally Hurt

Martin J. Hayden, 70, Chief of the Bridgeport, Conn., Fire Department for the past 12 years, and a member of the Department for 45 years, died in Bridgeport Hospital at 4:50 A.M. on December 6, of injuries received in a fall while directing firemen battling a blaze in a three-story wooden tenement building at 146-162 Nichols Street.



The catwalk showing section in the background which collapsed.

Chief Hayden fell 30 feet to the ground when a catwalk connecting second story rear porches of the dwelling gave way during the height of the fire. Ironically, the 30-apartment tenement was one which Chief Hayden himself had condemned several months ago as too hazardous for occupancy. It housed only six families, which had been permitted to remain while they sought other living quarters.

Moments before he fell, spectators warned the Chief that the roof was buckling. Herman Sims, a resident of the building, saw Chief Hayden step onto the roof. He said the roof seemed to "give" and he shouted to the Chief. "Watch out, the roof is going in", but it was too late. He didn't have a chance.

Rushed to Bridgeport Hospital in an ambulance, Chief Hayden died four hours later. Dr. Edwin R. Connors, Medical Examiner, attributed death to a crushed left chest, multiple rib fractures, a fractured spine and a fractured pelvis.

The blaze, according to fire officials, originated in a first floor closet of a tenement at 154 Nichols street, and mushroomed to the flat above. It fanned out to include eight flats in the structure.

The 85-year-old building was condemned by Fire and Health officials last February as "unfit for human habitation." At that time 30 families were residing within the dwelling. A stay of execution of the condemnation proceedings by the City was granted to allow the families time to find new places of residence. Only six families were in the building at the time of the fire. Fire officials said the structure had been the scene of several previous fires.

The first Fire Chief appointed under Civil Service in Bridgeport, Chief Hayden attained the highest mark in the examinations conducted Nov. 26, 1939, for the post of Chief Engineer. He succeeded the late Chief Thomas F. Burns, who died at the scene of a two-alarm fire in Bridgeport, on Oct. 9, 1940.

In addition to the post of Fire Chief, he was also the city's Fire Marshal. In this capacity Chief Hayden was a persistent advocate of fire safety and compliance with fire code regulations. He organized the office of Inspector of Combustibles, a unit specializing in preventing fire hazards.

A native of Bridgeport, Chief Hayden joined the Fire Department as a call man on May 13, 1907, while employed at the Wheeler and Wilson Sewing Machine Company (now the Singer Company, and was made a permanent fireman on April 1, 1908. On May 17, 1916, he was promoted to a lieutenant, and two years later, on April 1, 1918, he was advanced to Captain. On July 15, 1920, he was promoted to Assistant Chief.

Broken timbers of the catwalk in the rear of a tenement at Bridgeport, Conn., mark the point where Fire Chief Martin J. Hayden fell thirty feet to the ground on December 6, suffering injuries which caused his death four hours later.

Chief Hayden is survived by his wife, Lilian Coughlin Hayden, and a niece, Lilian E. Plasik. He was a member of many organizations, including Fairfield County Fire Chiefs' Emergency Plan, the New England Association of Fire Chiefs, the Connecticut State Firemen's Association, and the Connecticut Fire Chiefs' Club.

TOM MAGNER.

Former Johnstown Chief Dead

John A. Moran, 72-year-old retired chief of the Johnstown, Pa., Fire Department, died December 5th at his home in Moxham, Pa. He had served the Johnstown Fire Department 45 years—since 1937 as its Chief.

Even before the department was organized in 1906, Chief Moran was a volunteer with the old Moxham Fire Company. He was appointed captain upon the forming of the new citywide department; assistant chief in 1923 and held the post of chief from 1937 until

1951, when failing health brought his retirement.

During his tenure in office, Chief Moran instituted innovations in firemanship training, fire prevention, salvage and other phases of fire department administration. His career as a fireman was followed by his son Donald Moran, now chief of the Naval Air Base Fire Department at Jacksonville, Fla.

Chief Burnett of Newark Dead

Charles G. Burnett, 64, Chief of the Newark, N. J., Fire Department, died Dec. 13 following a heart attack suffered at the City Hall the day before.

Chief Burnett, who was elected vice-president of the Eastern Association of Fire Chiefs in Reading last summer, joined the Newark Fire Department in 1914. In 1915 he was the first Newark fireman to drive a motor operated vehicle, a front-drive Christie tractor.

The Chief rose through the ranks of the department, becoming captain in 1924, deputy chief in 1938, acting chief in 1940, and chief in 1943.

Modest, unassuming and self-effacing, the Chief refused all inducements to accept officership in state and national fire service organizations until last summer, when he was persuaded to accept the post of vice-president of the Eastern Association of Fire Chiefs.

One of the Chief's most important steps in furthering his department was taken in 1926 when he inaugurated a salvage corps of 24 firemen, eight in three eight-hour shifts. This Salvage Corps, like many others in larger cities, has had to fight for its existence, and it had no stauncher advocate than Chief Burnett.

The Chief's biggest fire came in July, 1951, when more than 30 tanks of propane gas exploded at the Warren Maritime Petroleum Co. in Port Newark. His department had more than 75 pieces of equipment at the scene and the chief directed operations from 1:30 P.M. that day until 4:00 P.M. the next day.

E. E. Robinson Dead

Elton E. Robinson, Vice-President of Samuel Eastman Co., Inc., passed away December 27th. Born in Concord, N. H., October 12, 1918, he spent his life in that city except during service with the Navy in the South Pacific in World War II and several years at the Portsmouth, N. H., Navy Yard. Upon his return from service, he assumed the Vice-Presidency and General Managership of Samuel Eastman Co., and held these offices until 1951, when ill health forced his withdrawal.

He leaves a wife and daughter, and his parents, Mr. and Mrs. George E. Robinson.

B. H. Sofge of A.D.T. Deceased

B. H. Sofge, general superintendent of Operating Department of the American District Telegraph Co., since 1935, died suddenly at his home in Hackensack, N. J., on Dec. 1 last.

Mr. Sofge won many friends in the fire service during his 51 years with ADT in which he acted in various capacities, including manager and district superintendent.

He was made assistant secretary of ADT in 1930 and appointed to the position of General Superintendent of the Operating Department five years later.

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The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Another "Dogeared Tale"—But it's Still Good!

Tales of "doggone" alarm systems are getting common these days but we just gotta include this'un for the many Firemen lovers of canines, because it's a bit different.

Down Charlotte, N. C., way "Frisky," a 12-year-old-Pekinese is getting to be quite a repeat hero. For the second time in five years, Frisky sounded an alarm that prevented the home of his owner, W. H. Stanley, Guilford County, from going up in smoke.

Frisky's latest feat came on an afternoon, following an electrical storm. The "K9 Alarm" sounded off after he smelled something, squeezed through the door to the den, and raced to the kitchen. Mrs. Stanley went to investigate and found an electrical cord to the refrigerator on fire. She and her daughters quickly doused his threat.

It was then recalled that a few years ago Frisky's master was going a-hunting and, when he left home, inadvertently closed "Frisky" in the den. A bundle of clothes was left lying on a chair, and a fire was burning in the fireplace.

Somehow, the clothes caught fire and soon the floor was ablaze. Frisky's frenzied barking brought Mrs. Stanley running, and between her efforts and those of her husband, that fire was soon put out.

Thanks, D. G. SPENCER

* * *

Necessity—and Invention

What's the old saying about necessity being the mother of invention?

Gilbert Henderson of Vallejo, Calif., can tell you. When a defective muffler set his automobile afire near Napa Junction recently, Gilbert called the county fire department, and then went into action himself.

When firemen arrived he had the seat out of the car and was using a hub cap as a bucket with water drained from the car radiator, to hold down the fire.—Thanks, JOHN STONE.

* * *

Elizabeth Bars Turnpike Fire Response

The Board of Fire Commissioners of the City of Elizabeth, N. J., angered by the attitude of the N. J. Turnpike Authority over the probelm of providing fire protection on the toll road, has ordered the Elizabeth Fire Department not to respond to fire calls on the 'pike.

In adopting the resolution, the Board said it acted because the Authority had shown little interest in the situation, which has been a pain to city and fire officials alike. Fire companies had difficulty last spring in getting to an extinguishing two auto fires on the speedway.

City Attorney Louis P. Longobardi, who had asked the Authority to consider compensating the Elizabeth Fire Department for fire protection services, drew up the resolution.

* * *

A Real "Whodunit"?

When firemen arrive a few minutes late to a fire it could be blamed on heavy traffic, bad roads, or some excited woman on the phone who just couldn't be understood by the "watch" at the fire station. But to be a full day late and muff the entire proceedings—that's a horse from another stable.

It really happened recently in West Haven, Conn., as firemen hastened, only perfunctorily, after being notified that a house was burning. When the West Haven smokeeaters arrived ready for battle, the house was only smouldering ashes. It had burned down the night before and no alarm had been sounded, no one had even seen the fire, apparently.

The house simply caught fire and went to its doom unnoticed. The following day the owner found the "forgotten fire" and the remaining ashes upon his return from a visit to Boston, Mass. He went to the fire department with, "Hey, my house burned down!" You could have knocked firemen over with a Fire Chief's Handbook at the news, and they couldn't find anyone "who even smelled smoke."

The question in the minds of everyone concerned was: "Who in blazes was 'in' on the blaze—if anyone?"

Thanks, TOM WAGNER

* * *

Tallo Ho! There Goes a Fire!

You can talk about people chasing fire engines, and it's true, but when a fireman, and a chief, at that, chases a fire, it's for the book.

That's what really happened in Cincinnati, last fall.

Fire Marshal William Telcher was sitting in the firehouse at Ninth St. and Broadway when he saw smoke billowing from a pile of furniture and mattresses in the rear of a truck proceeding along Broadway.

The Marshal hopped into his car and gave chase, meanwhile going on the air with his radio. "Send an engine company to 914 Main for an auto fire," he told Dispatcher Holz and Operator Snelbaker at fire alarm headquarters.

Marshal Telcher stepped on the gas and ordered the truck to the curb in front of that address with the information that his chariot was on fire. Then the doughty Marshal proceeded to get out his own extinguisher and unlimber it on the blaze, which was involving a chair and some mattresses.

Came the Brothers to finish the job and the truck resumed its course toward Indiana. Marshal Telcher blames the blaze on a careless smoker.

Thanks, PAT HOLZ

* * *

We Quote: "Let Children Play With Fire"

It's okay for little children to play with matches, light cigarets, fire up the incinerator and learn about explosives, electric shock and dangerous chemicals—all under parental supervision, a widely known pediatrician said in November, at San Francisco.

Dr. Harry F. Dietrich of Beverly Hills, Calif., made these suggestions in a paper for delivery before the National Society for Crippled Children and Adults.

Boys 3½ to 5 years old should be introduced to the ways of fire, Dr. Dietrich said, by allowing them to light cigarets for other members of the family, by letting them start the incinerator or fireplace when an adult is around.

When Junior wants to light matches, bring out the kitchen box, plant him in the driveway or on the sidewalk and make him light and blow out each one, one at a time. The whole box.

"This usually will give the parents a respite of three to 12 months from the match problem," Dr. Dietrich said.

Little girls should also be taught similarly but their interest usually wanes. But boys have a compulsive attraction toward flame, and their growing pyromania must be counteracted.

All children of this age should be taught that some liquids are flammable; that some strong acids and alkalies will burn the flesh. The facts about electric shock should be taught gradually.

"I personally feel," Dr. Dietrich added, "that the firecracker has an overlooked educational role in demonstrating an explosion."

* * *

Proves to Rat Who's Boss—Goes Boom!

E. Elmwall, of Sparreholm, 53 miles west of Stockholm, Ill., was exasperated no end when a rat ran behind a seat cushion in his auto on Nov. 18, and virtually dared him to do anything about it.

Elmwall didn't want any "rats in his belfrey" and decided to do something about it. So, he drove his auto into his shop in the garage he runs, and filled the place with acetylene to put an end to Mr. Rodent.

A little later, an explosion ensued, which rocked the neighborhood. The top of the car sailed 75 feet, along with parts of the building itself. Four other cars in the garage, and the building itself were damaged. Six men were hit by flying debris and injured. Hundreds of windows in the neighborhood were broken. The good neighborhood folk were startled stiff.

Nobody knows just what happened, but the blast is believed to have been set off by an electric short in the auto in quesiton.

At any rate, Elmwall got rid of his rodent!

* * *

The Case of the Aged Recluse

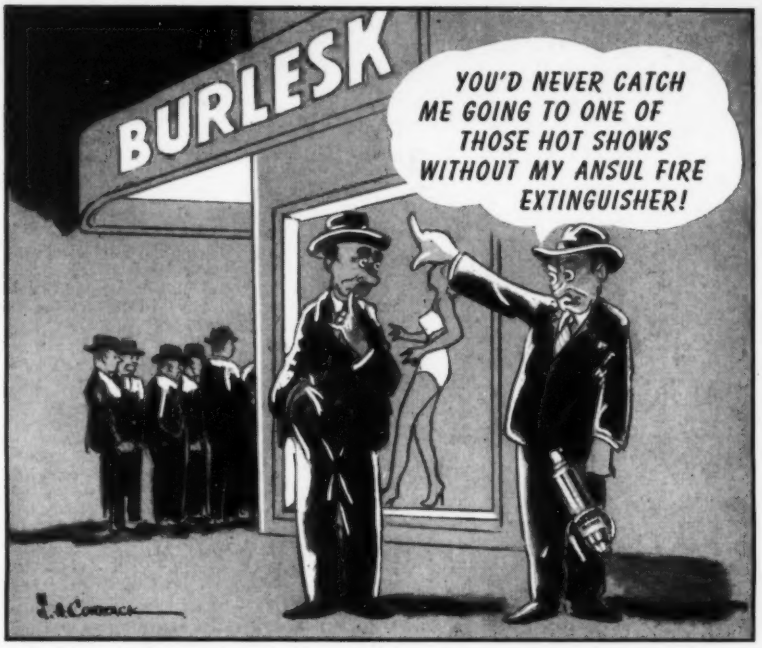
Fire and death finally opened the barricaded doors of a junk-filled house in Dunellen, N. J., upon the strange life of its aged, eccentric and apparently wealthy inhabitant.

On Nov. 12, firemen, answering an alarm from 214 First street, a seven-room, two-floor structure in a good residential neighborhood, found Oscar Vogel, 75-year-owner, dead of suffocation in a hallway.

To extinguish the fire that had killed him, they poured tons of water into the structure. That water dug into Oscar's secrets, flushed them out of their hiding places and exposed them "for all to see." Next day, firemen and police, draining out the water from the cellar, found bills of $10, $20 and $50 denominations floating on the surface. When the water was pumped out they found wads of cash that had been washed to the cellar floor.

The astonished salvage crews rigged a drying screen, wrung out the bills and set them to dry. Police Chief N. B. Schuyler said the money would come "to many thousands of dollars."

The money wasn't the end of Mr. Vogel's wealth. Searchers found stocks and bonds—value unknown. But that wasn't all. From floor to ceiling all seven rooms of the house were piled with what the recluse must have considered precious and priceless—old tires, empty boxes—even tree twigs and just plain junk. Inexplicable items were towers of popsicle sticks, some as high



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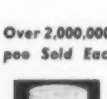
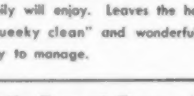


Here's a cream shampoo all the family will enjoy. Leaves the hair "squeeky clean" and wonderfully easy to manage.

Enthusiastic Report From Dixon Fire Department



Chief Gale Keyser of Dixon, Illinois says: "The people who bought our 65 jars of Jewel Shampoo are really satisfied—and we sure enjoy the fine coffee and convenience of our electric coffee urn."

Dept. FE

JEWEL TEA CO., Inc., Barrington, Ill.
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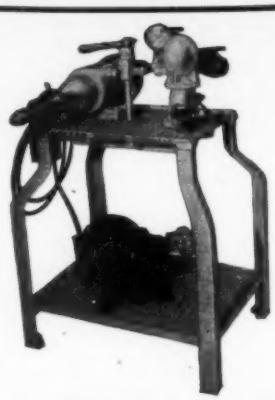
as 10 feet, such as children might build on a beach. In his life Mr. Vogel must have bent over and collected thousands of these discards.

Neighbors saw little and knew less of the man. Legend had it that he was a retired sculptor. He had owned his home since 1926; when his wife died 10 years ago, he retired within himself. About all they knew of him was that he spent his time roaming the streets for loot, something he had been doing a few hours before his death. A neighbor saw him squeeze his way into the house through a porch window—the doors were all barricaded by junk—and then a few hours later the firemen were pouring water into the house and neighbors knew more about Oscar Vogel than they formerly did. But not much.

* * *

Hot Off the Tape

In Cincinnati, Ohio, firemen worked in shifts Dec. 16, to put out an oven blaze because temperatures reached 675 degrees. Outside, the thermometer was below freezing. . . . Arthur Buldoc, driver of a White Plains-Mamaroneck, N. Y., bus is a man who takes no chances. When he noticed smoke coming from his motor, he drove his vehicle to White Plains Fire Headquarters and asked for help. Before he could yell "fire", the Brothers had stretched in and the fire was out. . . . Mrs. Edna Field, 57, of Lockport, N. Y., died Dec. 2 of burns suffered Thanksgiving Day when her apron caught fire as she was removing a turkey from the oven. . . . A Boston fireman won money at the racetrack, first prize in a waltz contest, and a $40,000 home in a raffle—all on the same day. Gosh!—some days a feller can't make a nickle! . . . In Cleveland, firemen fought a fire in—of all place—a deep freeze unit. In Syracuse, N. Y., a bus crashed into a fire alarm pedestal in the business section during a CD air raid drill. It tripped the alarm and all available fire fighting equipment was sent to the scene. . . . In Fairlawn, N. J., the Weed and Boyce families, who occupy a two-family house, were awakened by the doorbells at their respective front doors. The parents, and the two children of each family, in their nightclothes turned out to see what caused the fuss. Fire, they found, has shorted the doorbell wiring and awakened them in time to escape. The house was badly damaged. . . . In Green Bay, Wis., 3-year-old George Green Jr., was found suffocated by firemen in a second-floor bedroom after fire had swept through the house. The lad was clutching the body of his dog, Thumper. Firemen believe the youngster who was downstairs with his mother when fire broke out, climbed upstairs to get his pet. . . . In Mount Vernon, Ohio, a fire truck on its way to fight one of 11 field fires, started two more when the engine's locked emergency brake threw pieces of hot metal into dry grass. . . . Firemen of Council Bluffs, Ia., fighting a million dollar blaze last October, were surprised to see a strange fire truck pull up at the scene. The truck, from the John Bean plant in Lansing, Mich., was being delivered to a Western town and the driver, passing through Council Bluffs and hearing the sirens, got into the act. The vehicle was not used in fighting the flames, however—but it could have been. . . . Out Los Angeles-way, Ivan Kirov credited his pet crow with saving his life. He said Rimley, the crow, screeched



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ST. JOSEPH · · MISSOURI

an alarm when fire broke out in his second floor bedroom. . . . .There was much excitement near Boswell, Ind., recently when a beer truck and another truck collided. The beer truck overturned against a small house and both house and truck burst into flames. The 84-year-old blind owner of the house suffered a heart attack; the beer truck driver and the pilot of the other truck were bruised. Our scout fails to report on the cargo! . . . There was also some anxious moments in Moorhead, Minn., about that same time, when a huge fire and six explosions at a bulk oil storage plant, sent burning oil flowing through the streets of a four-block area. All 11 tanks of the plant were destroyed before firemen were able to control the blaze. But they did it—and held loss to $250,000.

Persons in the News

New Cape Girardeau Chief

Dewey Hinton became the new Chief of the Cape Girardeau, Mo., Fire Department Oct. 1, 1952, succeeding Chief Carl Lewis. The new chief has been with the department since 1936, serving as captain, fire inspector and assistant chief. George Dunn, former captain has been named Assistant Chief.

Tetreault Chief at Greenfield, Mass.

Edmond F. Tetreault, 39, was appointed Chief of the Greenfield, Mass., Fire Department in November. He has been Acting Chief since the retirement of Chief Herbert Ferris. He was high man on the eligibility list and has been associated with the department for the past 20 years.

Zenus Mathis Succeeds Rex Farley

Zenus Mathis was promoted to Chief of the Atlantic City, N. J., Fire Department on December 1, 1952, to fill the post left vacant by the retirement of Chief Rex Farley.

Chief Mathis was appointed to the Atlantic City Fire Department on October 1, 1914; advanced to Captain on January 1, 1933; to Battalion Chief on March 1, 1946, and Deputy Chief on August 16, 1950.

Pres. Byrd Now Honorary Fire Chief

Dr. H. C. "Curley" Byrd, president of the University of Maryland, was "promoted" to the post of honorary fire chief of the Takoma Park, Md., Volunteer Fire Department at the recent banquet marking the organization's 58th year.

The Maryland University official received a certificate of appreciation for his work in encouraging the Fire Service Extension Program of the University for the past 22 years.

The citation was read by Deputy Chief Herald W. Hirst, and was presented to Dr. Byrd by President Henry E. Marschalk of the department. Chief Melvin E. McBride presented Dr. Byrd with his badge of office. Toastmaster of the ban-

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	U. S. Gallons Per Minute	Disch. Press. Lbs. Per Sq. In.
FZZ	60	100
	100	70
FZ	50	60
	300	10
HPZZ	15	200
	50	100

These 3 pumping "Workhorses" provide amazing volumes and pressures for efficiently fighting a great variety of fires. All three units are conveniently portable by two men; can be easily mounted or carried on any type of apparatus for fighting fires while in motion from booster tank; often used to pump from inaccessible water source into major pumper, or to fight fires direct.

(Fire Pumps in All Standard Capacities)

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We Strive To Save Lives, Too!

Through continuous research and in cooperation with fire and safety officials, we have perfected a dependable home fire alarm system. It is a great satisfaction to know that our efforts have been responsible for saving many lives in fires.

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FIRE-LITE ALARMS

Incorporated

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Dept. B-1

Member National Fire Protection Association

This booklet helps you choose the right unit for your needs.

This free booklet will help you select the right type, the right size, starting method, etc. for your particular application. *Whatever* you need, you'll find it in the "U.S." line — for U.S. builds over 300 models, backed by more than 60 years of manufacturing experience!

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quet was Irving Wallen Johnson. There were 118 guests present.

Also honored for her long and faithful service was Mrs. Mabel S. Weitzell, secretary of the Fire Service Extension.

N.B.F.U. Announces Fire Films

The National Board of Fire Underwriters, New York, N. Y., made public recently its new 1953 listing of 22 current fire prevention films that are being offered free of charge to community and civic organizations, fire department officials, church and school groups.

The films, several in color, run from five to 20 minutes. All emphasize the need for increased fire prevention in the face of today's record annual loss of 11,000 lives and $770,000,000 worth of property.

Film bookings should be made through the National Board's Film Library of the Bureau of Communication Research, Inc., 13 East 37th Street, New York 17, New York.

The films listed are as follows:

"Approved by the Underwriters": This film shows the rigorous testing methods used by the Laboratories to make sure that products "approved by the underwriters" will not cause fire, injury or shock.
16mm B. & W. — *22 minutes*

Before the Alarm: This is a fast-moving story of fire prevention engineers at work in a typical American community.
16mm and 35mm B. & W. — *10 minutes*

Chemistry of Fire: Demonstrates how the elements of fuel, oxygen, and ignition temperature must be present in order to have fire; differentiates between flash point and ignition point of fuels; tells how a fire may be extinguished.
16mm B. & W. — *45 minutes*

Crimes of Carelessness: This fire prevention film depicts the appalling loss of life and property that results from preventable fires. It contains spectacular pictures of actual fires.
16mm and 35 mm B. & W. — *10 minutes*

Danger Sleuths: A fascinating story of "Anytown, U. S. A." and the way a typical family is protected from fire, shock and casualty hazards by the precise, exacting testing work of Underwriters' Laboratories, Inc.
16mm B. & W. — *18 minutes*

Fire and Your Hospital: Emphasizes importance of fire emergency planning in preventing serious fires in hospitals. Available for booking after March 1, 1953.
16mm B. & W. — *20 minutes*

Fire Fighting for Householders: An official film prepared for the Civil Defense Administration to show householders how to fight small fires in the home in times of emergency.
16mm B. & W. — *10 minutes*

Fire on the Farm: Fire is one of the farmer's deadliest enemies. This film shows how farm fire protection, and prevention can be improved.
16mm color and B. & W. — *12 minutes*

Fire Prevention in the Home: Shows how two boys carry out an inspection of their homes after a Fire Prevention Week program in their school.
16mm B. & W. — *14 minutes*

Smoke Eaters: This outstanding film, produced by a major motion picture company, depicts the role the fireman plays in the life of America. It shows the risks he takes to protect his fellow citizens and some of the methods he uses to extinguish fires and detect their origin.
16mm B. & W. — *18 minutes*

Stop Fires—Save Jobs: Encourages an alert attitude toward fires, tells how to recognize common fire hazards,

NEW! AL! 360 degree fresnel light!

Originally designed bracket fits the side contour of cab roof. Ideal for ambulances. Use in pairs with alternating flashers.

$30.00

per pair with flasher.

ARGUSLITE CO.

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McINTIRE GATE VALVES

Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

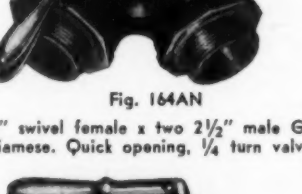

Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

F. N. McINTIRE BRASS WORKS

377 PUTNAM AVE., CAMBRIDGE 39, MASS.

1837 - - - - - - - - - - - - - 1953

emphasizes the fact that fire is an enemy of jobs.
16 and 35mm B. & W. *18 minutes*

"Stupid Carelessness," The Fire Clown: Short film for children's programs. Fire prevention demonstrations by a clown and his partner.
16mm Kodachrome and B. & W. *5 minutes*

Texas City Comes Back: Although Texas City suffered one of America's worst peacetime disasters in April 1947, it came back less than a year later as a boom town. This documentary film shows the role fire insurance played in rebuilding thousands of homes and businesses after the catastrophe.
16mm B. & W. *10 minutes*

The Torch: Unusual new color cartoon produced by the National Board of Fire Underwriters to show that there's just a bit of human carelessness in all of us.
16mm color and B. & W. *10 minutes*

Then It Happened: The Maine forest fires of 1947 destroyed millions of dollars of valuable watershed, timber land, homes and devastated scores of communities. This film graphically shows the fire destruction, and points a warning to all against misuse of our forest heritage.
16mm color *10 minutes*

These are the Facts: This semi-documentary film depicts the public services of the fire insurance companies and the vital role fire insurance plays in the life of the nation today. Shows inspections of fire departments, engineering and research that helps protect you from fire.
16 and 35mm B. & W. *18 minutes*

Tony Learns About Fire: This unusual film shows how a fire involving several sixth grade students started a chain of events that led to a whole school adopting a fire safety program.
16mm color and B. & W. *16 minutes*

Training Volunteer Fire Departments: This new film, emphasizing the importance of training, will be available for booking by volunteer fire departments after March 1, 1953.
16mm Kodachrome and B. & W. *20 minutes*

Trees for Tomorrow: Fire prevention is the primary step toward maintaining an adequate timber supply. This excellent film produced by the American Forest Products Industries, Inc. shows the up-to-date techniques of forest conservation. The photography is outstanding.
16mm B. & W. *18 minutes*

How to Call the Fire Department: Shows quickest ways to call the fire department in most U. S. cities.
16mm B. & W. *5 minutes*

Until the Fire Department Arrives: Shows how to use those precious minutes between turning in the alarm and the arrival of fire department.
16mm B. & W. *5 minutes*

How to Fight a Fire in the Kitchen: Shows how a housewife can cope with small fires that may occur while she is cooking.
16mm B. & W. *5 minutes*

New England Association Reports Healthy Growth

The Annual Meeting of the Board of Directors of the New England Association of Fire Chiefs was held at the Hotel Bond, Hartford, Conn., on Dec. 9th, with President Chief Anthony J. Molloy of Nashua, N. H., presiding.

Reports by Chief John O'Hearn, Secretary-Treasurer, show the Association now has a total membership of 1234, of which 708 are Active, 526 Associate. A total of 63 new members were accepted since the June Conference in Wentworth-by-the Sea. Ten members have been lost by death.

The 1953 Conference of the Associa-

BADGER EMERGENCY BOAT
Designed Especially For
Rescue Work and Fire Fighting

Rugged construction to withstand hard use.

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Exterior protected by strong Fiberglas laminate.

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Be Ready for Spring Floods
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Firemen and Civilian Defense Fire Departments, made especially for outdoor use, white base plastic, lettering FIRE ENGINE RED.

Wording under FIRE DEPARTMENT: CHIEF, ASSISTANT CHIEF, CAPTAIN, LIEUTENANT, MEMBER, VOLUNTEER, ENGINEER, DRIVER & POLICE. 63¢ Single, two for $1.25.

Special made with name of department, Town, Township, Association, Club, etc. Minimum order 50 plates. 88¢ each; 100, $62.50 — SPECIFY LETTERING with order. Officers named furnished from above-named plates. Special cut inverted lettering (SAME MATERIAL) limit 10 roman or 18 condensed letters. Pair $4.25, single $2.25.

Cement 'em on car body, fasten back of various emblems, bolt to license plate, use on sun visor, size 9½ x 2".

2% cash discount with order.

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ACME . . . *the only Gas Mask with the* "PICTURE WINDOWS"

You never have that "jammed-in" feeling, wearing the Acme Full-vision Gas Mask. Its patented, larger lenses are like picture windows, giving you full natural vision for that safe, unconfined feeling. When you walk you can actually see your toes without bobbing your head. This factor alone makes Acme outstanding among gas masks . . . well worth looking into.

Write for the complete story on Acme Gas Masks for all fire fighting hazards.

ACME PROTECTION EQUIPMENT CO.

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tion will again be held at Wentworth on June 22, 23, 24 and 25.

Highlight of the Board meeting was the adoption of a resolution condemning the sale and use of flammable hair treatments and toiletries. Association Chiefs were urged to check on local retail and other outlets for these products and discourage their distribution and use. At present only one State in New England has any laws regulating the sale of these hazardous products.

FCDA to Start 1953 State-Share Program

According to information just received from Nicholas B. Odum, of the Federal Civil Defense Administration, the FCDA is almost ready to start dealing with the states under the Federal-State Matching Program for the Fiscal Year 1953.

As is generally known, the Congress appropriated $15 million on July 15, 1952, which, if matched on a dollar-for-dollar basis, would make a grand total of $30 million for the procurement of fire fighting and rescue equipment, medical supplies and equipment, attack warning and other communications, and for training and special education.

As this is written, FCDA is not prepared to state how much fire equipment each state proposes to procure. From a preliminary analysis, of the proposal submitted by approximately one-half of the states involved, it appears that the Federal Office will be in the market for about 500 pumpers in the fiscal year.

Details concerning the State-Share Program are contained in FCDA's Contribution Manual, M25-1 dated October 15, 1952 (for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.—Price $1.00).

Chapter 1 of this Manual gives the general considerations, outlines the allocation of funds, and their reallocation. It points out that equipment eligible for contributions under the several share Programs consists of "materials, facilities and organizational equipment for which the Administrator (FCDA) is authorized to make financial contributions under Section 201 (i) of the Federal Civil Defense Act of 1950. Organizational equipment is equipment determined by the Administrator to be (1) necessary to a civil defense organization, as distinguished from personal equipment, and (2) of such type or nature as to require it to be financed in whole or in part by the Federal Government. It does not include items normally utilized by the local community for combating local disasters except when such items are required in unusual quantities dictated by requirements of civil defense plans."

Chapter 1 also discusses the limitations of the Program and defines "target areas" and "critical target areas." It also contains the amended Part 1701 of the FDCA Regulations covering such details as "Purpose, Definitions, Request for Contributions, Conditions of Contributions, Amount of Federal Contributions, Project Application Approval, Billing and Payment, Advances of Federal Funds for State Procurement and Retroactive Contributions."

Requests for contributions must be made out on Project Application Form 233 in accordance with the conditions given in M25-1. The details concerning

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Here is the same typical Janesville rugged, comfortable quality in turn out suits in the finest army duck or pure gum rubber BUT . . . with "SCOTCHLITE" ADDED!

The "Scotchlite" in your Janesville coat "lights up like a lamp" when light strikes its surface. This is a terrific personal safety factor on dark streets or in dark, smoke-filled buildings.

Order Janesville next time and specify "Scotchlite" trim. . . . We Welcome Your Inquiry.

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Contributions for C.D. Equipment are stated in Chapter 2 of the Manual. These should be studied by every fire chief desiring to make application for FCDA fund participation. It outlines the limitations for filing, etc., such for example as "Fire fighting equipment should not be combined with rescue equipment" (in making application).

Part III of this Chapter covers the various "Project Applications" for which share funds are provided, including fire fighting apparatus, communications (state system and local system), rescue services, etc. It also includes a reproduction of Form 233 with instructions for filling it in and filing it.

Chapter 3 deals with Procurement and Delivery on both state and Federal Procurement basis. Chapter 4 covers Advances of Funds, Reimbursement and Payment, with a specimen copy of the "Request for Advancement of Funds," and the sample Invoice Form.

Chapter 5 deals with the Warning Device System Contributions Program.

Chapter 6 explains the Public Civil Defense Education and Information Contributions Program, while Chapter 7 covers the Training and Education Contributions Program. These Chapters contain numerous Annexes incorporating the essential details of the Programs.

Chapter 8 embraces Health and Special Weapons Defense Contribution Program—and is largely given over to inventories of medical material.

The Communications Contribution Program is covered in Chapter 9 and the fire service will be particularly interested in this project. It covers radio systems of all types for civil defense and disaster use, including loud speakers, microphones, PA systems, etc., for control centers and field operations. Included, also, are emergency and auxiliary power equipment, initial telephone installations, etc. This chapter also details items of expense which are *not* approvable for Federal Funds. Various Annexes furnish the details of the Communications Program.

Chapter 10, which no doubt is the most interesting section of the Manual to the fire service, covers the Fire Services Contribution Program. It includes such sub-chapter subjects as: Objective, Criteria for Approval, Approvable items (which are listed in Annex 10-A), Use and Maintenance of Equipment, Preparation of Project Application, Procurement, (items recommended for Federal Procurement), etc. Part III of this Chapter was not included in the original Manual (M25-1) but was sent separately in December to all State Directors of Civil Defense.

The final chapter (11) covers the Rescue Service Contribution Program. This, also, should be of interest to the fire service.

In his communication to FIRE ENGINEERING Mr. Odum writes "We feel that the highest possible degree of utilization of existent state resources is necessary if we are to have any semblance of an effective fire defense program. To stimulate interest and development of this particular phase, it was deemed advisable to change the program criteria for 1953. This change may be found under Chapter 10, Page 10-1 of the Manual (above described) and concerns the eligibility of a state to participate in the program, i.e., the equipment must be made available to a

(*Continued on page* 75)

HALE TYPE "BL" Discharge Valve

. . . Available on All HALE Fire Pumps

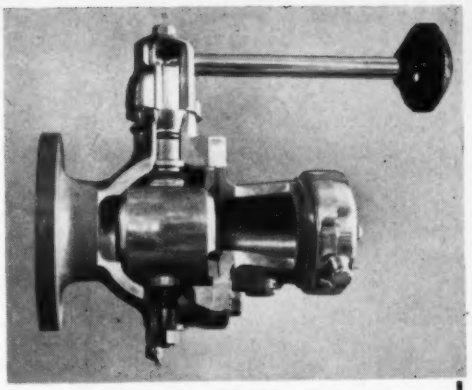
Easy-turning at all pressures, the Hale Type BL Discharge Valve can be "gated" and locked into position by a slight turn of handle to prevent creeping. The water flow is through a perfectly round waterway for low flow resistance.

Many tests have proved the valve's reliability and freedom from service troubles.

The "BL" valve is not sensitive to dirty water and will hold high pressure or vacuum. Replacement parts are inexpensive, easy to install and do not have to be "ground in." Ample handle clearance and easy turning mean freedom from "knuckle busting."

The Hale Type BL Discharge Valve is typical of constant Hale improvements resulting from constant research.

For detailed information send for Bulletin No. 293 on the Hale BL Discharge Valve.



Above—View of BL Valve cut away to show internal construction. Valve is in open position, with cap on.

OUTSTANDING FEATURES

- **Turns easily at all pressures.**
- **Will not leak at pressure or vacuum.**
- **Circular section through valve cuts flow loss.**
- **Not sensitive to dirty water.**
- **Easily serviced . . . no "grinding in."**
- **Slight twist of handle locks valve into any desired position for gating.**

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Hale Fire Pumps Are Built in All Standard Capacities

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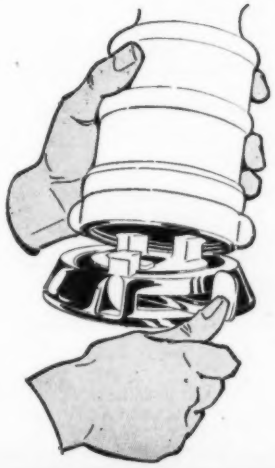

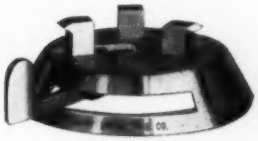

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Fire Service Rescue

(Continued from page 31)

the safety of both the victim and rescuing personnel.

When the victim is under loose debris, it may be necessary to clear a path slowly and carefully to him, shoring with the progress of the path, as in mining operations. Sometimes it may be necessary to give first aid, resuscitation or even medical aid to the victim before removing him. Several trips in and out through the cleared path may be necessary by rescuing personnel. Shoring should be safe and secure, and may have to be done gently and without jarring to prevent further collapse.

It may sometimes be necessary to sink bulkheads and cofferdams and to shore them in cave-in incidents in cesspools, ditches, wells and other excavation accidents. Such accidents of major proportions may involve the use of bulldozers, steam shovels, drag lines and other heavy duty equipment. Minor accidents may involve only the use of rope, shovels and pails and, of course, tools for shoring.

In cave-in incidents, rescue personnel must first think of personal safety. Accumulated toxic and asphyxiating gases may render the rescuer helpless or unconscious and unable to perform the rescue unless he has protected his respiratory system before attempting rescue.

If the victim is buried, great care should be exercised in using a shovel. Terrible damage could be done to the victim that would make the rescue effort useless. Speed is important because of possible asphyxiation of the victim but not important enough for overzealous digging.

In the cave-in incidents, some thought

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2½" couplings attached ...$ 6.75 set
2½"x10' hard suction hose....$14.50 lgth., cpld.
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4"x10' DJ soft suction hose, 4½" couplings, long handle female .....$16.50 lgth., cpld.

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Mechanical Foam playpipes (Leading Manufacturer) w/adapter (Cost $50.00 each) .....$8.50 ea.
2½" nozzle holders .....$ .95 ea.
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FOR SALE

Gamewell fire alarm box system (manual), consisting of 75 pull boxes, 3 Cole transmitters, 3 take-up reels, 5 registers, 1 time-clock, and an 8-circuit board with rectifiers for sale; will sell individual units or complete system for any reasonable offer. Write to:

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Fire Department, Waukegan, Ill.

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Territory Open:

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One (1) 1937 Pirsch, combination quintuplet fire apparatus, consisting of 750-gallon pump, booster pump with 200 feet of booster hose and 90-gallon booster tank, hose compartment for 1,000 feet of 2½ inch hose, 250 feet of ground and scaling ladders, 65-foot junior aerial ladder and accessory equipment.

One (1) 1921 Stutz 750-gallon pumper apparatus, new motor, rebuilt rotary pump, hose bed for 2,000 feet of 2½ inch hose, forcible entry tools and accessories.

Both of the above apparatus are in good shape, and are in service at the present time. Interested parties please contact:

Fire Chief Norman Litz
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TWO FIRE TRUCKS

Ford V-8 500 GPM Hale Pump—Midship mounted behind the cab, 150 gallon reserve tank. Equipped with extension ladder, blinker lights, siren, inlets and outlets on each side. Has appearance of '52 model. Very clean.

International K-5, 125 gallon front mounted American Marsh pump equipped with blinker lights. Ideal for small airport. Good condition. For prices, additional information and photos call, write or wire Fulton Auto Exchange, 196 Edgewood Ave., N.E., Atlanta, Ga. Telephone Main 2134.

FOR SALE

1—American La France 600 Gal. Pumper with booster.
1—American La France City Service with Life Net and all equipment.
Apparatus now in service and in excellent condition.

Stephen J. Blackley, Chief
Valhalla Fire Department
Valhalla, N. Y.

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Fire Chief in small paid department would like to get into larger department as Chief. Have a wonderful record in present position, both in fire extinguishment and in fire prevention. Forty years of age, married and has one child. Can give any reference as to ability or character. Not under pressure in present location. City officials would give reference. Write Box 395, Fire Engineering, 24 West 40th Street, New York 18, N. Y.

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John Bean High Pressure Fog Fire Engine 500 gal. capacity tank, mounted on 2-ton Chevrolet chassis, 2 speed rear end. Homelite power plant, floodlights, rescue lamp, extra fog gun, boots, helmets, fireman coats with linings. CO_2, acid & soda, hand lanterns, aluminum ladders, many other extras not listed. All bought new, used 4 months. Priced for **quick sale.**

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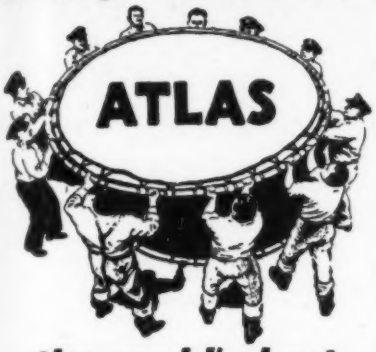

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ATLAS SAFETY EQUIPMENT CO., INC.

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must be given to the possibility of top edges caving under the pressure of workers when bulkheads are not used. If the earth seems solid and it is deemed wise to attempt rescue without shoring, at least some means should be used to relieve pressure at the immediate edge. This can be accomplished by some such device as laying a ladder across the opening and rendering ropes over the center rung or by use of a tripod and lead block.

Shoring is best accomplished with the use of timbers and wedges. Cut the supporting timbers short, then make them fit snug with wedges. Unnecessary jarring can be avoided, yet a snug fit can be accomplished when this method is used.

Shoring is sometimes necessary in traffic and railroad accidents. Heavy weights must sometimes be supported while cutting out metal wreckage, or raised with jacks and then supported while progressive access is made to where the victim is pinned or trapped. Shoring and equipment for shoring are important to rescue operations.

London

(*Continued from page 23*)

dock areas with foreign-speaking seamen and London's east end with its large Yiddish, Polish, and Russian-speaking peoples.

For better or for worse, depending upon which school you subscribe to—and you must consider this controversial question in the light of British phone service plus shortage of monies and materials—the "999" system shortly will completely replace London's fire alarm boxes.

State-Share Program

(*Continued from page 73*)

critical target area through an interstate compact or mutual aid support plan. If such plans are consummated, I do not believe the use of equipment thereunder will be limited to that which is required under the Matching Program."

Mr. Odum concludes with this statement: "All standard types of communications facilities are available to fire departments. Separate requests must be submitted, however, under pertinent criteria covering such facilities, reference: Chapter 9 of the Manual. In a like manner radiological defense training equipment and radiological defense equipment are also available and are covered under Chapters 7 and 8 (previously mentioned)."

Firemens BADGES by EVERSON-ROSS

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INDEX FOR 1952

The index covering the twelve issues of FIRE ENGINEERING for 1952 is now ready for distribution.

It has been prepared primarily as an aid to our many readers who maintain a file of those issues. Your copy will be mailed free upon request.

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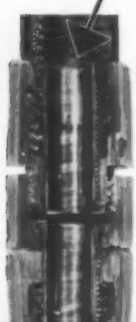

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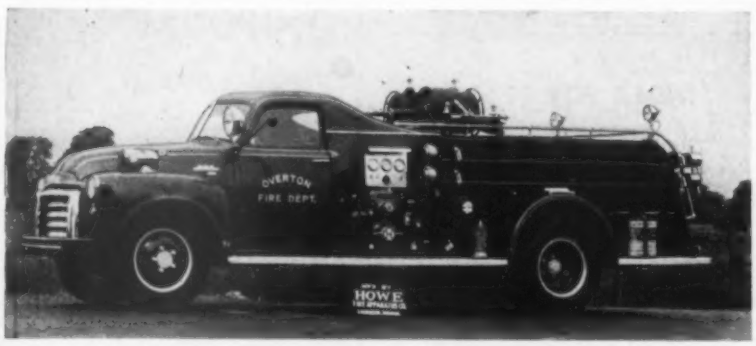

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ADVERTISING INDEX

FIRE ENGINEERING

JANUARY, 1953

	Page
Acme Protection Equipment Co.	72
American Fire Equipment Co.	52
American Rubber Mfg. Co.	*Inside Back Cover*
Ansul Chemical Co., Fire Extinguisher Division	67; *Back Cover*
Arguslite Co.	70
Atlas Safety Equipment Co., Inc.	75
Badger Boat Builders	71
Bar-Way Mfg. Co.	76
Bean Div., John; Food Machinery & Chemical Corp.	19
Blackinton & Co., Inc., V. H.	65
Body Guard Mfg. Co.	68
Braxmar Co., C. G.	54
Briggs & Stratton Corp.	59
C-O-Two Fire Equipment Co.	16
Cairns & Bro.	12
Circul-Air Corp.	66
Daniels, Inc., C. R.	69
Darley & Co., W. S.	60
Dayton Fire Equipment Co.	68
Duo Safety Ladder Corp.	8
E & J Manufacturing Co.	6
Elkhart Brass Mfg. Co., Inc.	73
Emerson Co., J. H.	*Inside Front Cover*
Eureka Fire Hose Div., U. S. Rubber Co.	37
Everson-Ross, Inc.	75
Fabric Fire Hose Co.	5
Federal Enterprises, Inc., Signal Div.	3; 46
Fire-Lite Alarms	70
Fogg-It Sales Co.	57; 61
Four Wheel Drive Auto Co.	13
Fulton Bag & Cotton Mills	56
Gamewell Co.	20
General Fire Hose Co.	58
General Pacific Corp.	58
Gerstenslager Company	55
Globe Manufacturing Co.	67
Goodrich Co., B. F.	7
Gorman-Rupp. Co.	57
Hale Fire Pump Co.	69; 73
Halligan Tool Co.	62
Harodikes, Inc.	48
Hewitt-Robins, Inc.	10
Howe Fire Apparatus Co.	76
International Bronze Tablet Co., Inc.	74
Janesville Apparel Co.	72
Jewel Tea Company	68
Johnson Motors	14
Kidde & Co., Inc., Walter	45
Lane, E. B.	72
McIntire Brass Works, F. N.	70
Mack Manufacturing Corp.	11
Marine Products Co.	55
Memco Aerial Ladder	66
Midwestern Mfg. Co.	18
Morning Pride Mfg. Co.	74
Oberdorfer Foundries, Inc.	63
Onan & Sons, Inc., D. W.	60
Oren Roanoke Corp.	48
Pacific Marine Supply Co.	64
Portable Light Co., Inc.	56
Powhatan Brass & Iron Works	52
QRS Neon Corp.	63
Radio Apparatus Corp.	50
Radio Corp. of America	53
Randolph Laboratories, Inc.	47
Republic Rubber Div., Lee Rubber & Tire Corp.	49
Rockwood Sprinkler Co.	9
Russell Uniform Co.	75
Scott Aviation Corp.	40-41-42
Seagrave Corp.	17
Smith & Co., D. B.	51
Stephenson Corp.	61
Sterling Siren Fire Alarm Co., Inc.	62
Trippe Manufacturing Co.	75
U. S. Motors Corp.	70
Ward LaFrance Truck Corp.	15
Wirt & Knox Mfg. Co.	71

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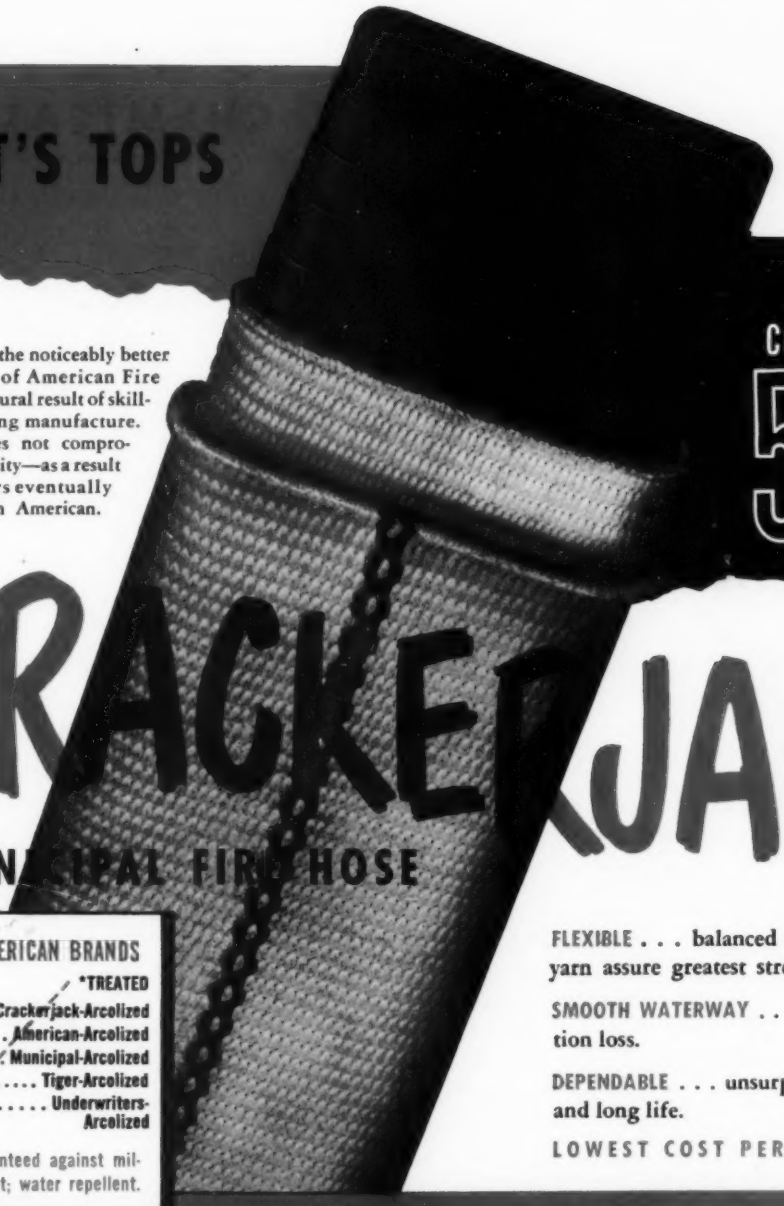

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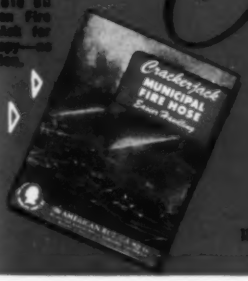

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